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WOODLAND

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No. 2616.—VOL. LXXXVI.]

NOTES OF THE WEEK

[JANUARY 7, 1922.]

WITH lengthening day and strengthening sunlight, life will now, should open weather prevail, become more and more noticeable in the garden. The Snowdrop will expand its pen-like buds, only to give place to the gaudier Crocus. The winter-flowering Heaths, the earliest tufted Saxifrages and the tiny *Iris reticulata* all give evidence of growth and progress, as do several species of *Daphne*, including the always welcome *Mezereon*.

The cold greenhouse and its furnishing is to-day a matter of real importance. There are literally thousands of gardens in which the alternative lies between utilising existing structures as cold (or practically cold) houses and demolishing them. In summer such houses can profitably be devoted to Tomatoes or other food crops. Even Cucumbers can be managed. When flowers are really plentiful outdoors many people would gladly dispense with them under glass. The production of flowers in a cold house in winter and early spring can only be achieved by the cultivation of alpinas, which can afterwards be stood outdoors or relegated to the shelter of cold frames. The article on alpinas under glass, which commences in this issue, gives a selection of varieties suitable for the purpose and particulars of their culture.

The Seed Order.—The time has come when the seed order for the coming year urgently calls for attention. The question of perennial seeds was referred to at some length in our issue of December 24th last. It may not be inopportune now to devote a little space to consideration of some less usual aspects of the seed order. First as to vegetable seeds, the ordering of Pea seeds need not detain us, but when one comes to the many varieties of Bean it is well to consider whether one cannot find space under glass, even in a cold house, for early French Beans. Where heat can be given, there are many excellent forcing kinds, but for the cold house there is still nothing better than the old Canadian Wonder. It is well to bear in mind too that any overplus of French Beans may be gathered when half-ripe—they are then called *Flageolets*—and cooked similarly to green Peas. The Runner Bean can often be put to double profit, being

used to form an effective and beautiful screen as well as for its more obvious purpose. Where this is in contemplation, one of the strains of Painted Lady type should be ordered, as these are very prolific, more effective even than the scarlet-flowered and infinitely more beautiful than the white-flowered forms. When ordering seeds of Beetroot, some good Globe variety will naturally be included, owing to the early maturity of this type. Unless wanted for exhibition purposes, it would be wise to discard the old-fashioned long Beets, which are troublesome to lift, in favour of the newer intermediate type which, like the Mangel, grows half in the ground, half out. Sufficient attention is assuredly not given to those excellent winter vegetables, the Sprouting Broccoli. Two or three varieties for a succession should certainly be included in the seed order. Seed should be procured of a good, quick-hearting Drumhead Cabbage for spring sowing and late summer and autumn cutting. With Carrots, as with Beetroot, the man (or woman) who gardens for table rather than for exhibition would be wise to grow only the stump-rooted type. If one likes pink Celery, one should bear in mind that the white matures earlier. To those who prefer the white, on the other hand, it is necessary to point out that the pink keeps better. Those who have almost decided to abandon the culture of Cucumbers owing to the ravages of spot disease should give a trial to that excellent immune variety, Butcher's

Disease-Resisting. The past droughty season so bad for Turnips, served to emphasise the value of the still neglected Kohl Rabi, which should be included in every seed order. The exhibition table has not tended to the production of useful Leeks for the dinner table. It would puzzle any cook to know how to serve 2ft. long specimens otherwise than in soup. For culinary purposes, then, order seeds of one of the compact growing sorts. Do not forget a few bricks of Mushroom spawn; there is no mystery or difficulty about Mushroom culture. Except for exhibition, there is no profit in "Super-Onions." A good crop of James's Long Keeping or Bedfordshire Champion is far more profitable. It should be borne in mind that fern-leaved Parsley is useless except for garnishing. It is very doubtful, even for that purpose, whether it is as suitable as a good curled kind, which should certainly be included in the seed order. Do not forget to include seed of Garden Swedes, which are valuable when cooked like Turnips, and even more valuable for their bleached spouts, which, from a dietetic point of view, contain most valuable salts.

Flower Seeds.—Turning now to the flower seed order, it would be impossible to over-emphasise the value of the *Antirrhinum* for hedging. Tall, semi-tall and Tom Thumb strains are all invaluable, and all are procurable in so many shades that colour harmony can readily be achieved. As regards *Begonias*, few readers will this year succeed in obtaining the new *Narcissiflora* strain, but those in search of novelty may, with confidence, try Sutton's Duplex strain, which has two or three rows of crimped petals forming a very chaste and beautiful flower. The experimentalist may obtain considerable joy by raising Dahlias or *Chrysanthemums* from seed. Really excellent single Dahlia and *Chrysanthemums* may be obtained by this means. Every gardener should each year raise a supply of *Campanula pyramidalis*, a beautiful plant either in pot or border. Few plants are so useful for stopping the inevitable but ugly gaps in the herbaceous border. Many people who, years ago, tried the feathery-leaved *Cosmos* gave it up in disgust because frost so soon cut short its beauty. The early-flowering strains now on hand, however, overcome this defect.



WELCOMING THE NEW YEAR.

THE ALPINE HOUSE

There are to-day in Britain many thousands of greenhouses which, owing to heavy taxation and the cost of fuel and labour, have to be maintained, if maintained at all, without fire heat. Follows a suggestion for their effective use.

AN unheated greenhouse is by many considered a "white elephant." It need not be so. It can be utilised in a variety of ways, but in none more charmingly than as an alpine house in winter. The elaborate alpine houses sometimes seen, with stone pillars to support the staging and "rusticated" back walls "decorated" with virgin cork, are an abomination. There is however, no need for such pretentious fancies. Pots and pans of alpines may be disposed on an ordinary staging just as other ornamental plants are staged. They will not, of course, have the tropic grandeur or oriental fragrance of many orthodox stove or greenhouse plants. They will, however, possess a simple beauty of form and colouring and a perfection of detail worthy of the closest study. They will flower when blossom outdoors is scarce or non-existent and their blossoms will be cleaner than those which, later on, will adorn the rock garden. Some of the more minute treasures, too, will be more fully seen and far better appreciated when thus brought closer to eye level.

It is, of course, possible to grow all rock plants under glass, but most people will prefer to keep the stronger growing sorts for the rock garden, reserving stage-room for plants which, if not difficult, are choice and which will repay study at close quarters. Many hoary plants, such as the *Enerusted* and *Kabschia Saxifragas* and many others with downy foliage, such, for instance, as numerous *Androsaces*, not only withstand our winters better protected from fog, mist and rain but present a much better appearance when given protection.

All alpines, if the necessary plants are available look better in colonies rather than as individuals so that 6 in., 8 in. and 10 in. round seed pans and also the large square propagating pans should be made use of. These last can be massed together to make larger patches of colour if and when desired.

The following are some of the plants which personal taste would select for the alpine house: *Saxifraga longifolia*, *S. Cotyledon* and *S. kolentiana major*, all "Encrusteds," with fine rosettes; *Saxifraga Grisebachii* and *S. Strilnnyi*, the rather difficult red-flowered "Encrusteds," and *S. mutata*, with cool green rosettes and yellowish orange spikes of bloom—a singular lime-hating plant. Of the smaller "Encrusteds," which are really varieties of *S. aizoon*, *rosea*, *lutea*, *paradoxa minor* and *balearica* are excellent, if very "easy" plants, while *Saxifraga lingulata lautoseana* should certainly find a place, as should two or three forms of *S. cochlearis*, and the tiny but beautiful *S. rocheliana*. Coming now to the *Kabschia* section, we have a wide field to select from and the following are only put forward tentatively. A large selection should certainly be grown, which might include *S. Burseriana*, *S. B. major* and *S. B. Gloria*, all very distinct; *S. apiculata*, *S. a. alba*, *S. Boydii alba*, *S. Cherry Trees*, *S. Faldonside*, *S. Petraschii* and *S. I. G. Godsetti*. Of *S. oppositifolia* and its allies the best forms should be selected. These are *S. o. corcina*, *S. o. splendens*, *S. o. alba*, which Farrer ill advisedly called a duty white (there are, however, strains and strains of this plant), and *S. retusa*. For the sake of contrast and to give broad effects, some of the "mealy" *Saxifragas* may

be tried, but they are rather coarse for the purpose and always look rather "washed-out" under glass.

Very interesting and beautiful are the numerous forms of *Androsace* which all flourish exceedingly in pans. Some of the more indispensable are *A. sarmentosa*, with pink primula-like flowers and woolly rosettes 2 ins. or so across; *A. primuloides* which is similar, but smaller and very beautiful, and *A. Chumbyi*, which in many ways resembles *A. primuloides*, but is, in fact, a hybrid between *A. sarmentosa* and *A. villosa*. Other rare and beautiful plants are the mauve-flowered *A. semperivoides* and the yet more uncommon *A. longifolia*.

Androsaces, until the petals are rose and the darker eye almost blood crimson in colour. This is a plant of the widest possible distribution and it is accordingly found in many distinct forms, one of which—*carinata*—comes from the New World. All are worthy of cultivation, but the only other form calling for special mention is *capitata*, which, without being gross, is larger in flower than the typical plant. The rosettes are almost globular and the flowers hugged snugly close to the plants. Much larger than *Chamaejasme*, and singular in the irregular arrangement of the flower heads, is *A. lactea*, with milk-white flowers which do not change colour. *A. foliosa*, so often offered in catalogues, usually



THE BEAUTIFUL KABSCHIA SAXIFRAGE "FALDONSIDE."

The above are all stoloniferous, as is the smaller glossy leaved *villosa*, with white flowers, of which there are many varieties, notably *arachnoidea*. Smaller still, but wonderfully beautiful, with its minute woolly rosettes, is the limestone-loving *A. helvetica*.

Entirely different in type are the peat-loving *Chamaejasme* section, of which the best known are the forms of *A. carnea*, than a well flowered specimen of which nothing more beautiful could be conceived. Desirable forms (in addition to the type) are called *brigitiaea*, *eximea* and *Laggi*, of which the last has a beautiful glowing colour, found in no other of the sub-species. Though perfectly easy to grow and flower outdoors in a peaty moraine, they repay close examination so well that they deserve a place of honour in the alpine house. *A. Chamaejasme*, though less widely known than *A. carnea* and very distinct in appearance, yet belongs to the same section and is very beautiful. The blossoms which open a creamy white with a yellow eye darken, in the way so usual with

proves to be either *A. strigilosa*, or even sometimes *A. sarmentosa*. The true plant of this largest of *Androsaces* has smooth leaves with a fringe of hairs only. It is stoloniferous, but the leaf cluster is too irregular to be worth calling a rosette.

Other beautiful species, mostly limestone-loving and belonging to the *Aretia* class, which all carry their flowers on single stems (not in trusses), are *Charpentieri*, *ciliata*, *cylindrica*—curious in its habit of growth—*pubescens* and *hirtella*. The more rampant *A. lanuginosa*, with silvery trails of foliage and *sarmentosa*-like heads of bloom, is too strong growing for, at any rate, the small alpine house. It is very beautiful, none the less; so is the paler form, *A. l. Leichtlini*.

Of the *Lithospermums* the most beautiful of all, *L. rosmarinifolium*, is suitable only for the alpine house, as it is rather tender outdoors. The little rosemary-like bushes bear their azure flowers in mid-winter. This is more lovely even than *L. prostratum*, and owing to its neat, compact habit

much more suitable for culture under glass. *L. graminifolium*, with its grass-like leaves and azure-tubes, the much smaller *petraea* (*Moltkia petraea*) and the intermediate forms called respectively *L. intermedium* and *L. × Fröbeli*, should also be included as should the widely different *L. canescens*, which is not difficult in strong peat under glass. Its flowers are bright orange yellow.

From the *Lithospermums* it is but a little step to the *Onosmas*, which, with their usually woolly foliage and characteristic bells, are very charming. There are a great number of known species, but most of them are anything but easy to procure. Those best known are *O. tauricum*, *O. stellulatum* and *O. albo-roseum*. The two first have golden-yellow flowers and are very similar in general appearance. Indeed, they are often confused in nurseries. *O. albo-roseum* has broader, woollier (so much whiter) leaves arranged, like those of *tauricum*, in rosettes and flowers which, opening white, rapidly become rose, so that the trusses have a distinct but not displeasing parti-coloured appearance. *O. echioides*, which is sometimes found in catalogues, is not greatly different from *O. tauricum* or *O. stellulatum*. *O. albo-roseum* is a pronouncedly lime-loving plant.

Many plants of special value for the alpine house are included in the genus *Primula*. *Primula Winteri*, for instance, is really only suitable for culture under glass. The same may be said of *Primula floribunda*, *P. × kewensis* and the newer *P. malacoides*. Where space permits such species as *pulverulenta*, *Cockburniana*, and their numerous hybrids, *Beesiana*, *Bulleyana*, *Poissoni*, *Parryi*, *sikkimensis*, and even *japonica*, may be given house room. This, indeed is very desirable if hybridisation is in contemplation. *P. involucreta*, *P. Veitchii* (not too hardy), and some of the better forms of *P. Sieboldi* will probably be included in any case. Very similar to *P. Veitchii* is *P. cortusoides lichiangensis* (the *Sieboldi* varieties are to be pedantic, forms of *cortusoides*). *P. c. lichiangensis* differs only from the perhaps better known *P. Veitchii* in the rather more richly coloured blossoms, the dark brown



BEAUTIFUL IN LEAF AND FLOWER, PRIMULA MARGINATA.

calyces—those of *Veitchii* are green—and in the sturdier, more erect habit and stouter, crisper foliage.

Unless one can afford it the shelter of a greenhouse the rare *Primula Giraldiana* (*muscaroides*) is very difficult to keep. Under glass it is relatively easy. *Muscaroides* is a particularly happy name for this quaint but pretty plant—it is a pity it happens to be an incorrect one. The beautiful violet-purple of *Giraldiana* calls at once to mind the beautiful globular-headed *P. Mooreana*, which is the best of the many forms met with in gardens as *P. capitata*, which is, in fact, a "miffy" plant rarely met with. Somewhat similar but less noteworthy is *P. crispa*. We have now insensibly reached the many forms, varieties and hybrids of *Primula denticulata*. These are all robust growers, but valuable none the less for the alpine house. It is good to raise these from seed and select and re-select the best forms. Seed is often listed as *P. cashmiriana*.

Primula Listeri and the somewhat similar *sinolisteri* are both alpine house plants and remind

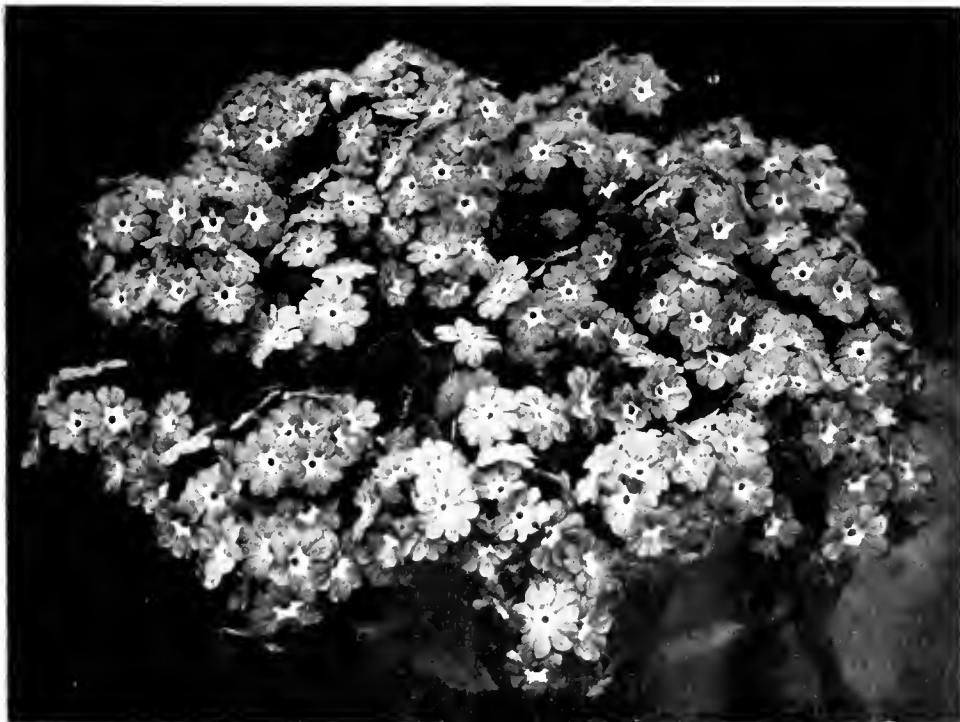
one much of *Primula obtusica*. If the same deep rose and ruby colourings can be obtained in these as in *P. obtusica*, that beautiful but venomous plant will soon become a "back number."

P. Littoniana should really have been thought of when discussing *P. Giraldiana*. It has the same curious orchis-like appearance and is most conspicuous on account of the brilliant scarlet bracts which enfold the unopened blossoms. The flowers vary very considerably in colour. Those of violet hue are, of course, to be preferred.

Remembering how keen alpine growers strive to persuade *P. farinosa* to flourish outdoors, it is permissible to suppose that it will be welcome under glass. Compared with the stronger growing and infinitely easier *P. freudosa* it is, however, a poor thing, nor does it compare favourably with the very distinct, long tubed *P. longiflora*, which also is not difficult.

Those who like curiosities will no doubt admire *P. pycnoloba*, which, like *Littoniana*, admirably disguises its race by bearing heads of flower which remind one of some of the congested headed *Campanulas*. It needs similar treatment to the forms of *P. Sieboldi*, to which it is related. Those who have seen that "miffy" treasure *P. Reidii* will want to try it, but it is assuredly far from easy. Like many others, it requires abundance of water (best applied by standing the pans in water) in summer and very little in winter. The late Reginald Farrer, with his natural tendency to the picturesque in language, described it as "hard to keep as love," and "even in nature as rare as perfection." There are numbers of other rare or beautiful *Primulas* which might well be given a trial, but we must conclude by considering only a few of the *Auricula* section. The typical *P. auricula* has yellow flowers and mealy flower stems. It is easy to grow indoors or out and has many forms in its native habitat. Besides such cross-bred forms as Mrs. J. H. Wilson and The General, which are often catalogued as varieties of one species or another, the most interesting alpine *Auriculas*, if we may so describe them, are *P. viscosa*, *P. hirsuta*, *P. villosa*, *P. marginata*, *P. Chusiana* and *P. minima*, with that magnificent hybrid between the two last *P. intermedia*.

Mention must be made of two other alpine species and then we must turn to another genus. The species are *P. Albonii*, which though rare in the Alps is not difficult in the rock garden club. It is, indeed far easier there than in an alpine house, but if handled with judgment it can be managed there. The other species, *P. integrifolia*, is an abundant one. It is quite distinct and easy, but the flowers are not particularly pleasing in colour.



A BEAUTIFUL ALPINE AURICULA, PRIMULA PUBESCENS MRS. J. H. WILSON.

This is often listed as a variety of *P. hirsuta*.

To be continued.

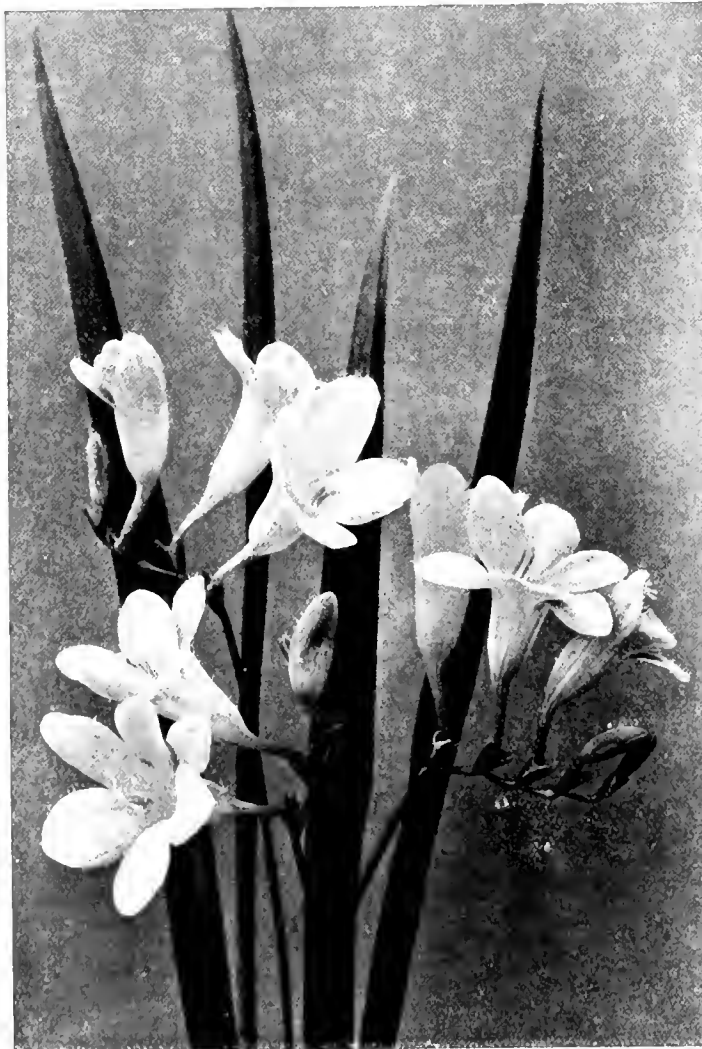
The Raising of Freesias from Seed

SOON the pots of fragrant Freesias will be filling the air of the greenhouse with delicious perfume—a perfume that is distinct from all other flowers, unique in its qualities. Perhaps you have a few of the newer coloured forms that of late years have so changed the possibilities of the whole family? for the Freesia is in a state of transition, having left behind the three or four standard varieties which had been grown for generations. New colours and varying habits have come into the family life and the offspring have started upon a new road of which it is impossible to forecast the end.

This brings me to the point of my note, the intermarriage of some of these new forms and raising the seeds so secured, which very possibly may reveal some still further advance on existing varieties. Once the balance of a plant has been affected and the germ cell changed it is capable of sudden jumps that never happen in the ordinary course of life at all, and the Freesia is in this state at the present time. Raising from seeds (so lengthy and tedious a process with many bulbous flowers) is a rapid one, for the Freesia is a quick-turn plant, and you have the joy of seeing the tangible result of your experiment within twelve months of carrying it out. Select your parents with a definite aim in view. Either you wish to strengthen colour by intermarrying two of similar shade, you desire to improve habit by using pollen from a weak-stemmed variety of good colour upon the stigma of a sturdier form, or you wish to aim at something absolutely new by combining two diverse colours. In either case, have a definite goal and do not mangle indiscriminately in the hope of hitting the bull's-eye somewhere.

After crossing, take care of your plants. Very often plants that are carrying seed capsules take longer to mature their foliage than those grown in the ordinary way, and no attempt must be made to hasten this. Secure the maximum amount of fertility by the maximum of ripeness. Seed can be sown either in April or August, the April sowing often coinciding with the period at which the seed matures. Sow in a rich but light compost, sandy loam with a little finely crumbled leaf mould being good. Well drain the pans and cover the seeds but shallowly with soil. Even moisture is important, though care must

be taken not to get the soil too wet. Half a dozen seeds are sufficient for a 5in. pan, and the brisker the temperature the more quickly the seeds germinate. Five or six weeks are generally sufficient, and once well through the soil the pans should be removed to a lower temperature. Keep them in a good light, so as to avoid drawing up thin and lanky, a complaint to which Freesias are especially prone if grown in shade. Only the brightest sunshine should be screened from the plants during summer, but sufficient shading is important to prevent scalding. By sowing



A BEAUTIFUL HYBRID FREESIA.

half a dozen seeds in a 5in. pan any necessity for repotting is avoided, but where they have been sown more closely than this you must handle with extreme care, for they are extremely brittle, and it is the easiest possible matter to break the small plants by rough or careless usage and thus lose what might prove a lovely flower.

Another way, of course, would be to sow singly each seed in a 3/4in. pot that would see the resultant plant through to maturity; but this demands a considerable amount of space if much crossing is done and there is a bountiful crop of seed, so that generally several in a pot is better.

Through the summer the plants can be grown outside, of course, which will relieve the pressure on the greenhouse accommodation for the time

being. An open, though somewhat shaded, position should be chosen for them, especially if the single pot system is adopted, for where exposed to full sunlight it is quite impossible to keep these small pots watered through a spell of real drought, for watering would certainly be required by some of them two and even three times in a day. Before frosts occur in autumn the pots must be brought inside again, where a comfortable temperature of between 50° and 60° is maintained, and should be ranged on a shelf near the glass where their requirements as to watering, etc., can be examined with facility.

Watch for the first signs of foliage toppling over, and prevent this by looping each plant lightly to a thin stake, so that it will permit growth to go forward and at the same time maintain it in an upright position. Then comes the interesting point at which the buds appear—buds so crammed with possibilities. Will they be new? Will they be worth the while? Time alone will prove, but you will at least have had a fascinating experiment and, possibly, a big reward.

BULBIST.

Perpetual Border Carnations and Allwoodii

Mr. Montagu Allwood's own views on the cultivation of the Hardy Perpetual Border Carnations and Dianthus Allwoodii.

THE two most recent and important developments of the Carnation, the Perpetual Border Carnation and *Dianthus Allwoodii*, are of great interest to all horticulturists. The object in raising these new hardy races was to produce plants giving the same perfect formation of flower as the old Border Carnation and Common Pink types, yet harder in constitution and perpetual flowering outdoors from spring to late winter. That we have succeeded is evident by the flowers we have before us at the present time, and in the many thousands of seedlings under test there is found a larger range of colour than in any other section of the Carnation family.

Regarding the propagation of these new races of *Dianthus*, the same system is adopted here as with the Perpetual-flowering Carnation, except that the best period for rooting the cuttings is from June to September. This should be done in cold frames or greenhouses, double shading being necessary in excessively hot weather to minimise the hot, dry atmosphere. After rooting, they are potted direct into 5in. pots and, when established, receive one stopping only at the sixth or eighth joint, after which they are ready for planting direct into the garden, care being taken that the young plants do not become checked or starved in the small pots before planting.

As regards general cultivation, this is identical with that of the old-fashioned Border Carnation. In common with all flowering plants, they flourish best in an open position which has a direct light and is not overshadowed by trees or buildings; in fact, they will flourish anywhere except in complete shade. It is not wise to plant the young plants closer together than 6ins., or further apart than 18ins. Our plants, which we leave in the same position for three years on our nursery beds, are planted at 12ins. apart, but for an edging rows, would be the correct distance to leave between them; that is, from stem to stem.

Such reasonable and hardy plants as *Allwoodii* and Perpetual Border Carnations, which are practically fool-proof and will grow on a railway bank,

naturally are not exacting as to soils, and will flourish in those of any texture if the following simple advice is observed. In the case of very light, sandy soil, which as a rule is poor and lacks plant food, autumn and early spring planting is advisable. The advantage of light soil is that the plants have free drainage during winter and commence to grow earlier in spring. A heavy dusting of pulverised chalk dug into light soil gives it substance. A top-dressing of Carnation food, given from April to September, is beneficial. Hoeing the surface soil once each week in bright, dry weather will help the roots to keep cool and moist, and also assist the Carnation food (which should be organic, and not chemical) to perform its work. Better results are obtained from repeated top-dressings and hoeing than from digging in large quantities of yard manure.

The soil at our Wivelsfield Nurseries is heavy clay, but at our Plumpton Nurseries it is medium loam, and this is ideal. Allwoodii and the Perpetual Border Carnation were raised and reared, however, at Wivelsfield Nurseries. Heavy soil is best deeply dug or bastard trenched in early autumn, and left as rough as possible so that winter frosts can pulverise it. A dusting of lime will help to break the soil down. Old yard manure or other enriching medium is best added when the surface of the soil is lightly forked, or Canterbury-hoed over, in spring. In heavy soil all seasons are favourable for planting, with the exception of late autumn and winter.

The soil in an old town garden is often sour and infested with earthworms, through lack of

cultivation. This soil simply wants correct treatment to make it ideal for Allwoodii. A dusting of lime is the most valuable addition. Use just sufficient to look like a light snowstorm, then deeply dig the soil, leaving it in big lumps and as rough as possible, so that the light, air and sun can sweeten it, when it should be left for a few weeks. The soil is best enriched during spring and summer with Carnation food, while hoeing during bright, dry weather is of the greatest possible assistance to the plants.

It seems unnecessary to describe the various ways of growing Allwoodii and Perpetual Border Carnations, because they will grow in any place where plants will flourish and flower. This alone will suggest to the mind of an enthusiastic grower innumerable ways and means of cultivating them. As carpet plants under standard Roses they are ideal, being shallow rooted, while Roses are deep rooted. In window-boxes or lawn vases no plant can look more beautiful or supply a greater show of bloom from May to October. We have seen Allwoodii making a brave display in pots on window-sills. Naturally, as edging plants or in beds by themselves one first thinks of growing them, but in rockeries or dry walls they seem at home. If you can plant them with a background of dark evergreen shrubs their blue-green foliage is, in the winter, seen to great advantage. These new flowers, with their old-world charm, have only to become known to be loved by all. A bed or edging of one variety gives the appearance of a drift of colour and can be fitted into a piece of perfect colour harmony. MONTAGU C. ALLWOOD

every advantage that can be provided by man and Nature contributes to success.

Though I have spoken so far of either sun or shade in an alternative sense, the ideal rock garden is a combination of both, where one passes from sunland into shadow and the plants are varied accordingly. Another excellent way where space is ample—is to pass from the sunny rock garden, gradually, towards a clump of trees that are the shade-makers and, by the restrained use of a few bold rocks and a good deal of short turf etc., pass into a really natural little piece of miniature alpine pasture—a refined and improved pasture, if one may dare to say this of Nature's handiwork—with all the coarser, commoner plants weeded out, the ultra ultimate super-planting, as though she had concentrated there in our collection samples of her best and greatest gift to one favoured devotee. Here, one large rock should stand cracked and split into clefts and crevices, holding back a large body of earth behind it, so that Haberleas and Ramondias can be packed in horizontally and form immense rosettes of deep green wrinkled, hairy leaves, from the centre of which—each June—push up scores of stems of rosy purple, orange-centred flowers. It is fairly generally known now that both these plants must be planted horizontally so as to throw the rain from the centres and prevent wet lodging among the hairy leaves, but at the same time they quickly perish if dry. They root very deeply, and great care must be taken in packing them to see that the roots really can penetrate far into a large body of peaty loam, that the soil completely surrounds the roots and that adjoining cracks are filled as well, so that cold winds cannot destroy the roots by blowing through and drying out the earth.

Among the short grass is the natural home of numberless hardy Primulas, and never do they appear more captivating than when seen in such a setting. What can compare with a mossy grass bank in February and March filled with our native Primrose, for instance? And in their natural habitat, remember, this is how all the hardy Primulas grow. It is the gardener that

THE SHADED ROCK GARDEN

Some of the many plants suitable for the shaded parts of the rock garden are touched upon below.

FROM the plantsman's lists, the almost unlimited books and articles that have been written on the subject of alpine and rock plants, and the constant reiteration of the phrases "must have full sun," "a position fully exposed to the sun," etc., we are in danger of losing sight entirely of the rock plants that not only thrive in, but demand shade if we are to obtain the finest and best examples of them. First of all, let us get this point absolutely clear and distinct. There is shade—and shade; the natural, cool, grateful shade, formed either by the shadow of a large rock or a north aspect, where the soil is always damp and where colonies of Primulas, many Saxifrages, Haberleas, dwarf bulbs, Ramondias etc., revel and turn this into a delicious little wonderland of captivating flower and foliage—that is the kind of shade I had in mind when I wrote my title. Then there is the shade that is utterly hopeless and had better be turned into a plantation of strong-growing hardy Ferns and Funkias—the shade that is beneath tree boughs where, whenever it rains the earth is soddened with drip and stagnant wet and where no self-respecting rock plant will live through a single winter. Not long ago a lady asked me to go and see her "rock garden" where conditions similar to the latter obtained, and I must candidly admit that, among the few plants that had managed to continue their existence, very few indeed would have been recognised as alpine by the genuine alpine lover. Where, however, a shaded slope exists right clear out in the open, with no overhanging boughs, and where sufficient moisture-retaining material, such as peat, etc., can be added to the soil, we may have a rock garden

upon which the sun never shines in his strength and a rock garden as packed with choice plants and flowers as the most favoured suntrap where



A CANDIDATE FOR THE SHADY ROCK GARDEN—HOUSTONIA CŒRULEA.

has segregated them and dropped them into little pockets of rock and earth, divorced from the short, close verdant grass setting that serves to keep the roots evenly moist at all seasons and cool in summer. You must, of course, choose varieties that are suitable for this, and the large majority are on your side, among which the following are all good: *P. Allionii*, *calycina*, *carniolica*, *denticulata*, *hirsuta*, *imperialis*, *latifolia*, *megaseæfolia*, *pubescens alba* and *villosa*. Do not overlook the absolute importance of procuring a really dwarf, close-growing, wiry grass for the purpose of surrounding such plants, or they will be buried among the deep lush growth. A fine little thing that makes itself at home everywhere and—if the idea is being worked out on a small scale—might well take the place of turf is *Arenaria balearica*, a wee green carpeter covered with tiny white flowers. This will, if there is sufficient dampness, run all over the place, even on the bare rock face, taking the shape of the rock itself as it runs. The effect of a little patch of this surrounding a dozen irregularly planted plants of *P. Bulleyana* is simply superb. Close down on the earth a dense carpet of shining green leaves starred with tiny eye-like white flowers, then the *Primula*, a cunning plant which disguises itself as the common Primrose until its flowers appear. These, however, are in whorls, on stems about a foot high, with rich golden yellow flowers tinted on the outside with apricot. Speaking of delightful carpeters, do not overlook *Tiarella cordifolia* for use among taller plants, for this will really grow itself and run about by means of runners as freely as the Strawberry.

A notable long-flowering plant is *Chrysogonum virginianum*, and this we can use anywhere in the shaded rock garden with the utmost confidence, for it persistently bears bright golden flowers even under the dense shade of trees, and that for months. Another continuous bloomer that will not disappoint is *Claytonia*, of which the two varieties that I like best are *C. caroliniana*, with charming rosy flowers in July, and *C. sibirica*, a trailing-habited plant with bronze foliage and rose flowers in racemes. One species of *Cortusa*—*Matthioli*—with its umbels of drooping purple flowers, repays massing near its relatives, the *Primulas*, and gives a continuous effect from April to June. A very choice shade lover is *Galax aphylla*, the lovely Wand Flower. This is a North American creeping plant that throws up fine spikes of white flowers in summer on stems a foot high, though to many its greatest effect does not appear until autumn, when the large evergreen leaves assume their winter dress of bronze and crimson. While not easy to grow, the *Blechns*—*Houstonia cœrulea*—is worth any amount of trouble to ensure its complete happiness. Set the plants in the shady rock garden in an equal mixture of peat, leaf-mould, sand and fibrous loam. Though they like plenty of water in summer, winter wet is fatal, and a sheet of glass over them (as with the wet-hating *Androsaces*) is essential in winter. This brings to mind a very choice species of these *Androsaces*—*foliosa*. This is, again, a very continuous bloomer, lasting from May to September, loving limestone and flowering in large umbels of rosy lilac blooms.

Wulfenias, though generally recommended for raised parts of the bog garden, do well in the shady rock garden, and both of the two species are scarce plants, coming from the Himalayas and needing similar treatment to the *Primulas*: that is, a damp, peaty soil and cool shade for the roots. Do not omit the numberless indispensable corms, bulbs and tubers which add so much charm in spring and autumn. The wealth of material to hand in this class is astounding, for the wee miniature *Narcissi*, *Bulboodium*, *minimus*, etc.,

with *Muscari*, *Ornithogalums*, *Fritillarias*, *Erythroniums* and hosts of others—transform the whole scene into a veritable fairyland of beauty in spring, while autumn-flowering varieties of the hardy *Cyclamens*, etc., are no less serviceable in autumn.

Where my suggestion of letting the shady rock garden run out towards trees as an extension of the ordinary rock garden is followed out, you will find that there comes a definitely marked line beyond which, towards the trunk of the tree, the grass becomes sparser and sparser and finally all vegetation ceases. What is to be done, you say, with this? To leave it bare is an eyesore, yet Nature herself has refused to have anything more to do with it. Oh, no, she has not—never was a greater error! Put in a few bushes of *Hypericum*. This genus contains a large number

of species, sufficiently diverse to add a great deal of interest, and possessing the advantage of being practically ever-blooming so far as summer and autumn are concerned; while the dwarf *Chrysogonum*, to which allusion has already been made, is splendid in early spring to produce a gold effect before the *Hypericums* begin. Greatest of all, however, are the common woodland *Bluebells*, massed in hundreds—ay, thousands, if space permit—so that as one looks ahead in the early spring days the whole earth seems but an intenser reflex of the cloudless sky above. Yes, far from the shady portion of the rock garden being a matter to bemoan, it is an opportunity to grasp—an opportunity the possibilities of which have been but briefly sketched in the above note. H. W. CANNING-WRIGHT.

THE YEW AND ITS VARIETIES

Some attributes and peculiarities of one of the most valuable of our hardy evergreen trees, with a list of the more worthy forms.

THE Yews are widely distributed trees in a wild state. Opinions differ in regard to their specific nomenclature. Some botanists make as many as seven distinct species, while others incline to the belief that they are all varieties, or geographical forms of one species, *Taxus baccata*. The behaviour of the common Yew under cultivation rather confirms the latter view, for in gardens there is as much or even more difference between cultivated varieties than between some of the so-called species, the variations in which are probably due to climate and soil. The common Yew is a native of Europe (including Britain) and North Africa, and extends in Asia as far as the Himalayas. The

Chinese form is known as *sinensis*; the Japanese, *cuspidata*; the Canadian, *canadensis*; and the Pacific Coast Yew, *brevifolia*. The Yew is also recorded from Mexico and Florida, but these forms are, apparently, not in cultivation.

Among the numerous hardy evergreen trees and shrubs planted freely in the pleasure grounds and shrubberies the Yew is one of the most valuable of them all. As specimen trees on the lawn the value of the numerous beautiful and distinct varieties is by no means fully recognised. Some are tall, imposing and graceful in outline; others of moderate height and wide spreading; several compact in habit or rich in colour; while the fastigate character of the Irish Yew is well known.

In the shrubbery border the Yew may be planted as a screen, where it will thrive in sun or shade, and form an excellent background for flowering trees, shrubs and herbaceous plants. For hedges its only serious rival is the Holly, while for topiary work the Yew is unequalled, standing constant clipping year after year for an apparently indefinite period, certainly for a couple of hundred years.

The Yew is dioecious, very rarely monoecious, so that if it is desired to secure attractive fruits in quantity, male and female trees must be planted in close proximity. The male trees, as a rule, produce pollen in abundance, the wind distributing it when it is ripe in almost cloud-like form.

The Yew thrives in most soils and positions, is very hardy and useful to plant in exposed situations. Liberal pruning does not harm the trees, so that it is quite easy to keep the Yew tree within bounds when becoming too large for its position or crowding



A FINE AVENUE OF IRISH YEW (*TAXUS BACCATA FASTIGIATA*) AT LAMPORF HALL.

a neighbour in the shrubbery. Very old trees, Yew hedges and lawn specimens derive benefit from liquid manure or a dressing of old decayed farmyard manure.

Seeds provide a ready means of propagating the common Yew in quantity. Though most of

or Pacific Coast Yew; canadensis, the Canadian Yew, a low-spreading shrub up to about 1ft high; cuspidata, the Japanese Yew, having a yellow tinge on the underside of the leaves; Dovastoni, the Westfelton Yew, horizontal branches and pendulous branchlets, forming beautiful specimen

not stiff, and will attain a height of 6ft to 8ft. It is suitable for covering large stones on the rock garden or as isolated specimens near the lawn, while it should be useful for making a hedge around a formal Rose garden. The foliage is pleasing at all times, and the flowers are followed by hips of a dark crimson colour. No pruning is needed except cutting out a few of the old growths when they become crowded.

R. WILLMOTTIE.—This pretty and very distinct species was named after the well known amateur, Miss Willmott of Warley Place, and it was discovered in Western China by Messrs. Veitch's collector, Wilson, some fifteen years ago. The single rose-carmine flowers, which are about 2in. across, are freely produced during June. They are borne singly on short stems on wood of the previous year's growth. The fruits are orange-red, and the elegant foliage and arching growths add greatly to the value of a species which is quite distinct from the majority of Roses in cultivation.

R. MOYESII.—No species or hybrid of recent introduction has attracted so much attention as this delightful plant. It is quite distinct in habit, and no other Rose produces just that shade of colour—it stands alone. It was first collected by Mr. A. E. Pratt about 1890 in the mountains of Szechuan

at an elevation from 7,000ft. to 9,000ft., and it was named in honour of the Rev. J. Moyes, a missionary in China. Introduced to cultivation by Messrs. Veitch in 1903, it was when shown by them on June 6th, 1908, given an award of merit by the R.H.S. When it was exhibited by Mr. J. C. Allgrove on June 30th, 1916, it gained the coveted first-class certificate, an award thoroughly well deserved. *R. Moyesii* is quite hardy, a free grower, and will form a bush 6ft. to 10ft. high. The flowers are about 2ins. across, dark red, the younger blooms being a shade of cardinal red, while an additional charm is the large cluster of tawny yellow stamens. The erect growths are covered with stout prickles, the leaves are small, and the pear-shaped orange-red hips are a decided acquisition during the autumn months.

When *R. Moyesii* was growing at Messrs. Veitch's Coombe Wood Nursery the plants exhibited some variation in colour, and the best form was figured in the *Botanical Magazine*, t. 8338. Messrs. Veitch only increased their stock from the best variety, but since the dispersal of that famous form no doubt a number of *R. Moyesii* have been raised from seeds, and consequently inferior varieties are to be found in some gardens today.

It is increased by budding and grafting, but I think such a vigorous plant should be on its own roots, then we are not likely to be bothered with suckers. This Rose is allied to *R. macrophylla*, which is found both in China and the Himalayas.

Both *R. Moyesii* and *R. macrophylla* are at all times very noteworthy plants in the garden, but never more so than in autumn, when their curious bottle-shaped hips change colour. In *R. macrophylla* these are crowned by the very large persistent sepals.

T. W. B.



SOME OF THE WONDERFUL TOPIARY (ENGLISH YEW) AT ELVASTON CASTLE.

the named varieties are seedling variations, it is necessary to reproduce these from cuttings. Among a considerable number of seedlings raised from the varieties *adpressa* and *fastigiata* in the nursery here not one has come true. They all resemble more the common Yew than either of the seed-bearing trees. August is a good time to insert cuttings in sandy soil under bell-glasses or handlights. Make them of the current season's growth, some 2ins. long, with a slight heel of old wood.

The average height of the trees is from 25ft. to 50ft., though at Midhurst there are specimens in a grove 70ft. to 80ft. high. Grown in the open the Yew is frequently wide spreading. At Whittingham there is a tree 125yds. in circumference. One of the largest trunks recorded is in Darley Dale churchyard with a girth of 27ft. In many widely distributed places there are noteworthy specimens, these being frequently associated with churches and buildings of historic interest.

Topiary work, though not so popular as formerly, is represented by many fine examples, one of the best being at Elvaston Castle, Derbyshire. Among the older school of gardeners clipped Yews still have many admirers, being an interesting and remarkable phase of arboriculture. Associated with old formal castles and mansions, the art of topiary work may be effectively employed, as Yew stands particularly well cutting into extraordinary shapes and forms.

An excuse sometimes given against the use of the common Yew in the pleasure grounds as a specimen tree is its sombre appearance. This does not hold good with many of the beautiful varieties. The most distinct and pleasing of these include *adpressa*, *adpressa stricta* and *adpressa aurea*, forms with smaller leaves; *aurea* and *Barroni*, golden Yews, *brevifolia*, the Californian

trees. *Horizontalis* is similar, but the branchlets are not pendulous—*elegantissima* is a golden-leaved form of it; *pendula*, *procumbens* and *ericoides* are dwarf forms suitable for the rock garden; *fructu-luteo* has attractive golden fruits; while *fastigiata*, the Irish Yew and its golden variety *amea* are well known forms.

Kew.

A. OSTOR.

SOME WILD ROSES

The simple elegance of the single blossom appeals almost to everyone. This is one of the principal charms of the Rose species.

DURING the last twenty years a number of species of Roses have been introduced from China, and although they do not command the attention bestowed on the various Hybrid Teas, they nevertheless deserve a place in every garden where space can be found for them. Wild Roses appeal to me, short though their flowering season be, for in autumn the numerous highly coloured hips produced by some species render them conspicuous and exceedingly bright at a time when most other plants are past their best. The finest effect is brought about by grouping the various species in the shrubbery border, on the fringe of the wild garden, or wherever they can be allowed to ramble without much pruning. Thinning out the old growths is all the pruning they need. One of the most noteworthy is *R. HUGONIS*, introduced from China by the French missionary, Peter Hugo, some twenty years ago. The single sulphur-yellow flowers about 2ins. across, appear towards the end of May, the graceful arching growths being more or less clothed with blooms. The habit of the plant is semi-erect and certainly

PLANTING SUGGESTIONS FOR THE NORTH BORDER

SOME years ago I was invited to advise a friend on the planting of a north border, backed with a fairly high brick wall. Herbaceous plants were preferred, as these would form a permanent feature entailing the output of but little labour or expense in their upkeep. Recently I have been afforded an opportunity of viewing the results obtained by the adoption of my recommendations and, as the whole proved satisfactory, I am passing the advice on for the benefit of the many who require similar guidance.

When first I inspected the site two fine specimens of the Morello Cherry furnished part of the wall space available, and the retention of these useful trees was advocated. In addition to the beauty and great utility of the fruits in late summer, the flowers make a delightful display in spring; moreover, the Morello Cherry does admirably when accommodated on a north wall. To complete the draping of the background, specimens of *Crataegus Pyracantha* (the Fire Thorn) and *Cotoneaster microphylla* (Rock Spray) were planted. The former is beautiful enough in spring, but really glorious in autumn with its vivid scarlet berries; while the chaste white flowers of the Rock Spray are quite a feature during the whole of June.

Among the noble plants commanding attention at the back of the border, varieties of *Helianthus* (Perennial Sunflower) hold their own, and in late autumn the varieties Rev. Wolley Dodd and Miss Mellish provide a welcome splash of gold. The feathery white plumes of *Spiraea Aruncus* (Goat's Beard) are effective in July. Of the Monkshoods (*Aconitums*), the varieties *Fischeri* and *Wilsoni* do best on this north border. The former carries pale blue flowers on 3ft. stems in autumn, while the latter attains a greater height and its darker blue flowers are conspicuous in August. Michaelmas Daisies, such as *Climax*, *Blue Bird*, *Orion*, *Onward*, *Bedding Queen* and *Mrs. J. F. Ravner*, vary in colour and height greatly, but all do well here and are attractive from August onwards into autumn.

Varieties of *Anemone japonica* find hosts of admirers, and clumps of Spanish Iris along the foreground of the border never fail to provoke praise. Campanulas in variety (Canterbury Bells are the most satisfactory) are pressed into service, while towards the front bold, irregular groups of the charming Columbine make a wonderfully pretty display. Fritillaries are a great feature, the Crown Imperials and *F. Meleagris* (Snakes-head) being the best of the various species tried. Certain annuals, such as *Virginian Stocks*, *Viscarias*, *Candytufts* and *Calendulas*, produce a gay effect in summer, and a spring display is made certain by the planting of commoner bulbs, such as *Crocuses* and *Daffodils*.

The edging of this border is entirely formed by a wide drift of *London Pride* (*Saxifraga umbrosa*), and right well does this accommodating plant justify the complete confidence reposed in it to shine under difficult circumstances.

Prior to planting any of the plants mentioned my friend dug the whole of the site to a depth of 2ft. He rightly retained the top spit in its original position, and incorporated liberal quantities of ashes from the garden bonfire. This latter naturally sweetened the soil, while the deep working improved the drainage. Without spade work of this kind plants cannot be expected to succeed on a cold north border. Provide a healthy rooting medium and the north border may yet

be a show corner of the garden. In seasons such as 1921 it is, at any rate, easier to keep plants in a flourishing condition on a north

border than elsewhere; while in the wettest seasons, such a border need not become soddened. F. W. MILES.

NOTES FROM GLASNEVIN

By LADY MOORE.

THAT beautiful species of Travellers' Joy (*Clematis smilacifolia*), of which I sent you a flowering spray and which is so well named from its large, handsome leaves, resembling those of *Smilax latifolia*, is little known. In Vol. II of the third series of Curtis's *Botanical Magazine*, October, 1846, it is described. The account states: "This plant was introduced from Java to the stoves of this country, where it flowers in June and July, and reintroduced by Veitch of Exeter. Being a mountain species, it will perhaps succeed in a greenhouse, where it would make a handsome climber."

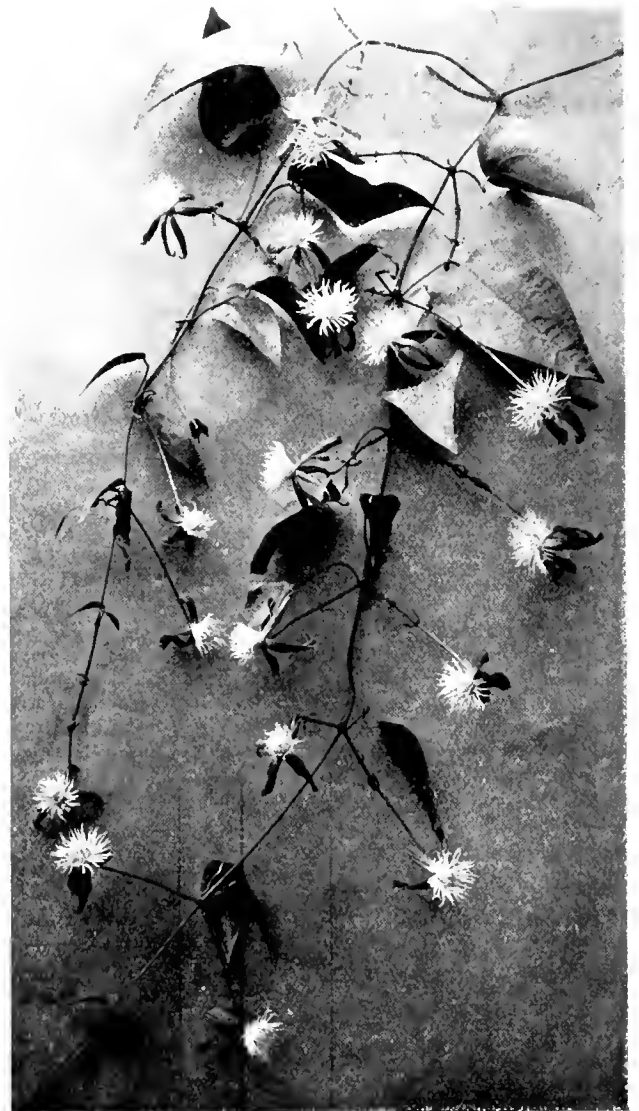
Some years ago seeds of *Clematis smilacifolia* were sent from Siam by Mr. Kerr, a former student of Trinity College, Dublin, to Professor Henry Dixon, who gave a plant to Glasnevin. It flowered in November and December, the accompanying photograph being taken from our plant. The stem extends a great length and is glabrous; large, undivided, cordate, ovate leaves, slightly serrated, are marked with deep nerves, the racemes axillary. The flowers, which are very numerous, are ovate in the bud stage and of a rusty orange colour, opening into four oblong, lanceolate, subcoriaceous, acute sepals, which soon turn back. They are of a rich purple colour, which becomes darker every day, and are covered with a soft down. The numerous pistils are white, long and feathery. The perfume is very sweet and fills the whole corridor where the plant is grown, at a night temperature of 50°. The petals of the flower are thick and fleshy, like a *Magnolia* flower, and not of the thin, papery substance usual in the *Clematis* family. The flowers of the Siam plant are much larger than those figured in the *Botanical Magazine*; they are fully 1½ ins. across.

The photograph sent was taken by Miss E. V. Miller.

I also sent a bit of *Lonicera Henryii* in fruit. This was grown on a north wall. The flower is not very conspicuous, but the racemes of purple black berries are very effective and make most beautiful house decoration, especially in a room with a light-coloured wallpaper. The leaves hold well into January.

That very sweet-smelling Honeysuckle, *Lonicera Standishii*, is always the earliest of the winter

flowering varieties. This year it opened its blossoms in November. It is much more generous with its flowers than *Lonicera fragrantissima*,



THE HANDSOME CLEMATIS SMILACIFOLIA.

and the clean, fragrant perfume is just as sweet. The leaves of *L. Standishii* are large, rough and lanceolate; those of *L. fragrantissima* are small, rounded and of a delicate green. *L. Standishii* strikes well from cuttings.

The unusual heat of 1921 has had a most beneficial effect on *Chimonanthus fragrans*. The wood was well ripened, and the result is a crop of flowers densely packed on every twig. The perfume fills the air on a sunny day. No garden with a wall should be without this lovely Chinese shrub.

[Like most fleshy textured greenhouse plants, *Clematis smilacifolia* is not a good traveller, so that it was fortunate Lady Moore was able to send a photograph—Ed.]

CORRESPONDENCE

A NATIONAL DAFFODIL SOCIETY?

"In these days we are a trifle overstocked with officials, and official machinery. If the Daffodil could speak for itself, I imagine it would plead for a quiet life."—G. H. ENGLEHEART in THE GARDEN, page 654.)

REQUIESCANT.

Let them dance their dance in peace, that happy band

Of brothers and sisters, young with youth eternal!

You think to worship? And do not understand
How gentle spirits hate the din infernal
Of cymbals, and sounding brass, and zeal irrational,
And damnèd iteration of that word "National"?

Not noise, not noise the incense they approve,
But the rapt homage mute of prince or boor.
And, giving what they take, those glad folk move,
Swinging their censers over mead and moor,
But what they hate—that hate they can, 'tis pity—
Is the solemn official fuss of a Committee.

The breezy hillside, dell, and stilly glade,
Their sylvan haunts—how I delight to rummage 'em!
And meet the dancing Daffodillies, not arrayed
In serried ranks at Vincent Square or Brummagem,
But far from the busy crowd's oppressive rattle,
Its fume, its fret, its official tittle-tattle.

How they hate a fuss! That galaxy of glory,
Of gods and goddesses, emperors and kings,
And damsels fair, and knights of song and story,
And saints, and poets, soaring on eagle wings—
Cædmon and, Chieftain of the Clan Poeticus,
Serene-eyed Horace—how they hate a fuss!

SOMERS.

IN my letter of November 26 I stated that the issue at the meeting in 1911 was not if there should be a National Daffodil Society, but whether or no the Midland should "constitute itself" the National Daffodil Society. Mr. Jacob tells me that there was no such proposal before the meeting. I accept the correction, and as no good purpose would be served by discussing it further, I will only express my regret for the error. I was glad to see Mr. Cranfield's letter of December 10—his practical and open-minded views, and that he is willing to take the matter up again. If the proposed meeting in March can be arranged, it will provide the opportunity for making a definite start and the appointment of an organising committee, which, as Mr. Cranfield suggests, when once the general principles are accepted, would discuss the various proposals from a practical point of view. I do not think, however, that we can expect to obtain the opinions of the general gardening public at any meeting. The public is notoriously inarticulate, and it is, in fact, impossible to get such general opinion beforehand by any available means. It can only be divined or estimated by disinterested observation of analogous cases. To do so cannot with any justice be called theorising. It is eminently practical being simply considering the point of view of the average man rather than one's own particular interests. The neglect to do this too often spells failure or something very like it. Can anyone doubt, however, the success of a National Daffodil Society conceived on broad lines, and not merely as a specialist's or fancier's society, when we consider not only that the Daffodil is an incomparable flower, still with infinite possibilities of development, but that

it reigns supreme in the garden for nearly two months of the year without actual or possible rival? Let us, then, boldly aim to have a society worthy of this Queen of Spring, for with such a flower failure is surely impossible. Mr. Cranfield remarks that "Daffodil growers, by comparison, are not a numerous body," but, from the context, he is evidently thinking of those who are specially interested. Those who grow at least some Daffodils must be nearly as numerous as Rose or Sweet Pea growers. If they are not, they should be! With the interest which such a society will stimulate, not only will Daffodils be more widely grown, but more people will learn to appreciate the immensely improved varieties, many of which are now available in quantity. These a really popular society will bring to their knowledge.—A. J. BLISS.

ONE WONDERS WHY.

ONE often wonders why some plants do not become more common than they are. There, surely, are many people who appreciate quiet beauty. How is it, then, that such a plant as *Veltheimia glauca* is so seldom to be seen in greenhouses? It is almost, if not quite, as long suffering as a *Nerine* or as its brother with the shining green leaves, *Veltheimia viridifolia*. Here, after two years of neglect, it is as flourishing as ever, and I have now five nice rosy pink to blush spikes of bloom, which are very pleasing on account of the interior of the mouth of the tubular perianth being of a deep hellebore red (Ridway's Colour Chart). I was induced to grow *Veltheimias* in the hope that a cross might be effected between them and my favourite *Lachenalias*; but, although I have gone on the old adage of "if at first you don't succeed, try, try, try again," I can only report "nothing doing." Now I have managed to increase the length of stem and the number of flowers on a *Lachenalia* spike. I am getting reconciled to the disappointment and am able to say to friend *Veltheimia*, "I think I shall be able to do without your help in this matter, but I shall always be glad to have you as one of the inmates of my greenhouse." The general appearance of a *Veltheimia* spike reminds one of the Red-hot Pokers, but in the place of orange and red shades we get rosy pinks and shades of blush. The glaucous foliage of *V. glauca* makes it at all times a beautiful plant.—JOSEPH JACOB.

THE MUSK ROSE.

THE Musk Rose (*Rosa moschata*) is one of the best of the rambling Roses both from an ornamental point of view and because of its delicious scent. In late June or early July it is a conspicuous feature with its numerous corymbs

of whitish flowers with bright yellow stamens—the inflorescences being often a foot across. Although it can be grown as a bush plant, to see it at its best it should be allowed to ramble at will, when it will throw out vigorous shoots roft or 12ft. in length, which, the following year, form graceful arches of flowers. The photograph I send is of a plant rambling over a large *Pinus austriaca*, 48ft. high, which forms an excellent background when the Rose is in bloom. The native habitat of *Rosa moschata* extends from South Europe to India. Introduced in 1500, there are several varieties—*Brunonii*, with glaucous leaves; *Pissardii*, with pink-tinged flowers; and *flore-pleno*, a double-flowered variety.—F. G. PRESTON, *Cambridge Botanic Garden*.

THE FLOWERING OF IRIS UNGUICULARIS.

I HAVE had these in my garden for twelve years and they have flowered quite fairly well, usually in January. Last year they began to flower early in November and are in bloom now. This was the first year that they have really made a great show in the garden. There have been more than double the number of blossoms at the same time and the blooming has gone on for many weeks.—"SOMERSET."

THE CULTURE OF DAPHNE CNEORUM.

I HAVE always treated *Daphne Cneorum* as a shrub which thrives best in a mixture of sandy peat and leaf-mould, but I have been informed that the species will do just as well in a loamy soil. As I cannot altogether accept this, I should like readers of THE GARDEN to give their views. Is a mixture of good fibrous peat, leaf-mould and



A FINE PLANT OF ROSA MOSCHATATA.

sand with partial shade or a good loamy soil most suitable? Also if any reader has achieved much success with *Daphne Cneorum* for forcing and winter garden use.—R. J.

[*Daphne Cneorum*, in our experience, succeeds wherever *Rhododendrons* and *Azaleas* flourish. If it can be provided in addition with a stony root-run, so much the better.—E.D.]

THE CULTIVATION OF ALPINES IN SPHAGNUM MOSS.

FOR more than thirty years I have proclaimed the necessity of introducing the cultivation of alpinists in sphagnum moss, especially for hot



A CONTRAST FROM JAPAN.

and dry climates exposed to a broiling sun. I once saw in Italy (Pavia) a group of alpinists of the most delicate nature, such as *Arnica montana*, *Artemisia glacialis* and *Androsaces*, growing splendidly in full sun, but in a bed of sphagnum. Later on in the Genoa Botanic Gardens I saw *Azalea procumbens* Edelweiss, *Arnica*, some of the most delicate *Androsaces* and *Primulas* growing quite well in the same medium. Why could not we do this at Geneva, said I, and so, more than thirty years ago, I began to make experiments. The results were wonderfully good and encouraging. I obtained more than fifty flowers of *Soldanella* on one pan, and *Arnica* and *Androsace* and all the most delicate alpinists, especially those which hate lime, and which before I could not grow here because of the calcareous nature of my soil, flourished marvellously. They were, indeed, much finer than in their alpine homes.

Many of my friends have, since that time, tried the treatment and achieved good results. This applied, however, only to those living in dry climates and under fierce sunlight. In England, for instance, culture in sphagnum is very unsatisfactory. The functions of evaporation and consequent absorption of water by the roots are, of course, dependent upon sun heat. With such a moisture-retaining medium as sphagnum it is necessary that the air should be dry and the work of evaporation as active as possible.

After publishing in England the results of my first experiences, I received several letters from alpine growers who had failed in this method of cultivation. Some, however, in the South of England and also in Essex obtained good results. I have received, more recently, from Japan where the atmospheric conditions approximate to those

of England, a letter and some photographs all testifying to the great success of sphagnum culture for alpinists and other plants.

Dr. I. A. Tsujimura, of Odawara, Sagami, Japan, writes that he has been very successful with the cultivation of alpinists in sphagnum. "Not only," he says, "for plants. I sowed, too, some seeds on top of pressed sphagnum, uncovered by soil or sand, and they came up all right. Care must, of course, be taken not to let the plants get too wet if they are of the genera *Diapensia*, *Cassiope*, *Phyllodoce*, etc. For those, however, which are found naturally on marshy ground, such as many *Primulas*, I simply leave them outdoors even under heavy rain."

He sent me photographs, one of which I send you herewith, to show the difference between *Primula malacoides* grown in sphagnum and one raised in mixed soil. The big one is in sphagnum. They were sown together.

Here at Floraire I have a bed of sphagnum in which grow all the lime-hating plants and such delicate alpinists as *Eritrichium nanum*, *Androsace glacialis*, *Phyteuma Balbisii* and *P. comosum*, etc. That little marsh bed is a great source of joy, but it must not be forgotten that we have here a very dry continental climate.—H. CORREYON, *Floraire, Geneva*.

[Acting on M. Correyon's published advice, the Editor some years ago tried seed raising in sphagnum, and also the after-culture of certain genera in pots in the same medium. Only sorts considered likely were tried, but the experiment, as far as it went, was entirely successful. The most noteworthy successes were obtained with *Pinguiculas* of sorts, *Soldanellas*, the bog *Gentians* and *Eritrichium*—this, however, is not worth growing in Britain except as a curiosity. *Arnica montana* is, in England, quite easy to raise, and grows in peaty soil. A wide field of experiment would seem to be open with regard to some of the *Primulas*, the *Sarracenias*, *Cypripedium spectabile* and other moisture-loving plants.—E.D.]

THE SQUIRREL PLAGUE.

YOU may be interested in my experience of the squirrel nuisance. My garden backs on to Richmond Park and the depredations of the park (grey) squirrels have become noticeable of recent years. I have frequently seen a squirrel sitting on the party fence and stretching its paw down to pick the fruit of the Raspberries, Loganberries and Blackberries trained to the fence. One Sunday afternoon this summer I had considerable trouble in getting rid of one invader. I despatched him coming along the top of the fence and drove him back over the park wall. It was only about two minutes before he was back again, and it took six or seven chivvings to induce him to stay away—at least, as long as I was in the garden.—F. WYNN HELLINGS.

THE HARVEST OF THE SEA.

THIS phrase is usually considered to mean the bountiful supply of fish that the oceans contribute to the food of man, but recently I was struck by an entirely different aspect of the matter. For four days mountainous seas had been thundering upon the shore, washing and swirling as they fell with a crash on the rocks and sand. As one watched one could see that each wave as it broke was dark beneath, with masses and masses of seaweed torn from the depths beyond. Presently the tide retreated, and as it did so, left behind tons upon tons of weed. Then came numbers of men and a long procession of carts, the weed was raked together into great heaps, piled high upon the carts and, as they wended their way inland, the men flung further piles upon

the stone-walled parade, ready for carting later in the day when the sea should have returned and made further collecting impossible. Those who have gardens near the sea might do well, indeed, to consider far more seriously than they have hitherto done the benefits of seaweed as a manure, with its rich supplies of potash, salt and humus—especially in the vegetable garden. Peas, Beans, Celery and Leeks all luxuriate where it has been used in preparing the trenches in which the seeds are to be sown, while, of course, as a top-dressing to *Asparagus* beds it is unexcelled. The best way for using for garden purposes is to cart it to the garden and stack it in a similar way to that in which manure is stacked. If it is available at the same time a splendid plan is to mix and stack an equal bulk of animal manure and seaweed together. The admixture of manure greatly hastens decomposition, and such a heap should be ready for spreading on the ground at the end of about three months. At the expiration of this time the bulk will have reduced considerably and decomposition will have gone far enough for you to possess a heap of rich partially decayed material that can be spread on beds, borders and the vegetable plot with confidence. Where it is desired to use the weed alone, without animal manure, stack the heap in a similar way, but do not use for nine months, as decay is much slower.—H. W. C.-W.

A FREAK DAHLIA.

I ENCLOSE you a photograph of a Cactus Dahlia plant, Dorothy Hawes, which grew to a height of 10ft. 6ins. A 10ft. rod is seen standing against the plant, which is not one with



AN EXCEPTIONALLY TALL DAHLIA.

a single stem. It will be seen that there were four flowers fully out when the photograph was taken on September 17 last. Three had previously been cut. The flowers were all Sims, across. I cannot say what caused this plant to go up to such a height. Others of the same variety in the bed grew to 6ft. or 7ft. only. I know we do not want Dahlias so tall, but I thought the photograph might nevertheless be of interest.—W. G. CRAMP, *Strattham*.

FLOWERS IN BLOOM ON CHRISTMAS DAY.

YOU may be interested to see the following list of 139 different species of flowers which we counted on Christmas Day in two gardens here. As we experienced 4° of frost in the first week of December it is rather surprising to be able to find so many plants continuing to bloom. Erica Veitchii is much earlier than I have known it before, but, on the other hand, E. darleyensis (mediterranea hybrida) will not be in flower for some weeks; it generally opens before Christmas, but last summer it nearly died owing to the drought. None of the plants in flower has received any protection whatever; Abelia floribunda, A. grandiflora, Acacia dealbata, A. falcata, Alyssum saxatile, A. maritimum, Alstroemeria aurantiaca, Anthemis Kelwayi, Antirrhinum majus, Abutilon megapotamicum, Abutilon (large-flowered variety), Aster cordifolius, Anemone "St. Brigid," Arabis albidia, Aubrietia violacea, Berberis Darwini, B. Gagnepainii, Buddleia auriculata, B. Colvillei, Bomarea multiflora (in bud), Cassia corymbosa, Campanula muralis, C. persicifolia, Convolvulus Cneorum, C. mauritanicus, Cineraria (large-flowered and stellata), C. maritima, Cobaea scandens, Colletia cruciata, Cistus florentinus, Cheiranthus (Wallflower), Clematis calycina, C. cirrhosa, Coreopsis grandiflora, Choysya ternata, Crocus Imperati, Chrysanthemum indicum (many varieties), Cotoneaster sp., Coronilla glauca, C. emerus, Cytisus racemosus, Chimonanthus fragrans, Citrus Lemon (also newly set fruit), C. Orange, C. Shaddock, Clarkia, Camellia (red and white), Cyclamen Coum, Cydonia japonica, Daphne laureola, D. Mezereum, D. odora (japonica), Dendromecon rigidum, Dianthus (Carnations), D. (Pinks, Allwoodii, &c.), D. graniticus, Desfontainea spinosa, Erica Veitchii, Escallonia macrantha, Erysimum Peroffskianum, Eupatorium Weinmannianum, Erigeron mucronatus, Fatsia japonica (Aralia), Fuchsia microphylla, F. Cottinghami, F. garden hybrids (eight varieties), Geranium (Ivy-leaved varieties), Gentiana acaulis, Grevillea rosmarinifolia, Gerbera Jamesoni, Helianthemum (three varieties), Helleborus niger, Heuchera brizoides, Hydrangea hortensis, Hypericum patulum, Iberis sempervirens, Iris unguicularis (three varieties), Jasminum nudiflorum, Leptospermum scoparium, L. prostratum, L. rosmarinifolium, Lavender, Lonicera fragrantissima, L. Standishii, L. Periclymenum, Laburnum vulgare, Leycesteria formosa, Leonitis Leonurus, Linum flavum, Myrtus communis, Matthiola (Stock), Mazus repens, Narcissus Bulbocodium (Hoop Petticoat), Nandina domestica, Nicotiana affinis, Omphalodes cappadocica, O. verua, Olearia macrodonta, Philadelphus Lemoinei (variety), Pittosporum Tobira, Primula auricula, P. Julia, P. cashmeriana, P. vulgaris, P. malacoides, Pernettya mucronata, Phlox setacea, Pentstemon (many varieties), Roses (many Hybrid Teas, &c.), Reseda odorata, Romneya Conlteri, Rosmarinus officinalis, R. o. prostrata, Rhynchospermum jasmiioides, Salvia fulgens, S. rutilans, S. uliginosa, S. officinalis, Sparmannia africana, Solanum jasmiioides, S. capsicastrum, Spartium junceum, Sedum Bourgoi, Selizostelis coccinea, Spiraea

arguta, S. prunifolia fl.-pl., S. Thunbergi, Stylophorum diphyllum, Teucrium latifolium, Veronica cataractae, V. salicifolia, V. speciosa (several varieties), Valerian (Centranthus) Viburnum Tinus,

Verbena radicans, Viola tricolor (varieties), V. odorata (double and single), V. gracilis lutea and Yucca gloriosa.—N. G. HADDEN, *West Porlock, Somerset*.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Planning of Crops.—Whether the garden is large or small it is a sound and practical plan on the threshold of a New Year to formulate some scheme of cropping as a guide in allotting out each plot of ground to be occupied during the year. The system of a regular rotation of cropping is more applicable to large gardens, but this does not necessarily mean that the possessors or managers of small ones cannot to some extent find it advantageous to decide now as far as possible how they intend to place their forthcoming crops. An important point to bear in mind is that to get the best results some crops must have plenty of manure worked into the ground immediately preceding their occupying it, while others are more successfully grown where little or no manure has been dug in for a season. Among the former, mention must be made of Peas, Beans, Cauliflowers and Celery; and among the latter, Carrots, Beetroot and some of the green vegetables such as late Brussels Sprouts and Broccoli, will stand the winter better on cold soils without manure.

Cauliflowers wintered in frames, whether pricked out or growing in small pots, will need an occasional examination for the removal of any damped-off leaves, or for a stirring of the soil among those pricked out. Plenty of air should be given upon all favourable occasions. Where there is sufficient room under glass to produce an early crop of Cauliflowers in pots or deep pits and no autumn sowing was done, some seed of a forcing variety should be sown now in pans of light sandy soil and allowed to germinate in gentle warmth. Place the seedlings when up, on a shelf near to the light and prick out when large enough to handle.

The Flower Garden.

Climbing Roses.—Where the thinning and training of these plants were not carried out in the autumn they should receive attention at the earliest opportunity. Remove as much as possible of the old wood so that the healthy young shoots may have every chance of development. Any defects in the supports of such Roses should be seen to at the same time, and planting may take place right through the winter if the weather be open and soil in suitable condition. To those intending planting who have made no selection the following varieties can be recommended, but individual tastes differ so much that probably no two persons would give the same list: American Pillar, single, bright pink; Dorothy Perkins, clear pink; Excelsa, rosy red; Félicité et Perpétue, creamy white; Hiawatha, single, crimson, white eye; Jersey Beauty, single, pale yellow; Lady Godiva, soft flesh pink; Lady Gay, rich rose; Mermaid, single, sulphur yellow; Shower of Gold, yellow; Tea Rambler, salmon pink; and Thalia, white.

Hardy Fruit Garden.

Planting.—We have been fortunate to enjoy suitable weather for this work since it was undertaken during October, and in all probability the majority of it in private establishments is finished unless such work has been on a large scale. If not already done, it would be wise now to mulch all newly planted trees with partly decayed leaves and manure as a protection should severe weather be ahead. Should planting not have been finished, take the first opportunity of an open spell of weather to get it done, and in the meantime make sure that the ground is all in readiness so that there shall be no delay when once planting is put in hand.

Plants Under Glass.

Clivias.—As these plants throw up their flower spikes a slightly warmer house will be beneficial to assist in the full development of the flowers. Should an increase of stock be necessary, choose (after flowering) an old plant or two with some young plantlets around them, remove these carefully and place in pots of suitable dimensions and grow in a warm, moist atmosphere until well established with fresh roots.

Tuberous Begonias.—It is best to sow seeds of these plants early if good results are to be

expected during the summer months. Use a light fine compost and drain the pots or pans thoroughly, afterwards placing them in a warm house for the seeds to germinate successfully.

Lily of the Valley.—To obtain the best results, retarded crowns are necessary, but where these are not used and early spikes are appreciated, they may be had in quite good time by lifting some clumps from the outside supply, and placing them in boxes of light soil in a newly started fruit house or warm greenhouse.

Fruits Under Glass.

Pot Cherries.—As a pot or tub plant the Cherry is one of the most reliable of croppers, and one that requires but little warmth during its early stages—two points which should tend to popularise the above method of culture. Failing an orchard house to accommodate them they may be placed in a Peach house about to be started where a temperature of about 45° will suit both plants. Admit air on all mild days and syringe lightly with tepid water during the warmest part of the day.

Melons.—For early work make a sowing now, placing a couple of seeds in a small 60 size pot filled with nearly all light loam. Place the pots in a propagating pit or where similar warmth may be afforded.

Cucumbers.—Make a sowing likewise of these, for the sooner young plants are in bearing condition the better, so that the winter batch may be grubbed out. Allow the seeds to germinate at a similar heat to the Melons, but use for compost half flaky leaf-soil and half loam.

H. TURNER.

(Gardener to the Duke of Northumberland)
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Early Sowings of Seeds.—With the advent of the New Year one's thoughts turn naturally towards the necessary early sowing of certain seeds, but in northern gardens a goodly period must elapse before sowings of even the hardiest kinds can be made in the open ground. In well regulated establishments one of the first duties of the gardener at this time is to prepare his seed order and get it despatched to his seedsman as soon as possible. Extreme care must be exercised in making a suitable selection of the various sorts, as varieties that succeed in one particular district often prove a complete failure when grown in another locality. Deal with firms of repute, and thus avoid many of the disappointments associated with inferior supplies.

Onions.—A sowing of Onions should be made during the ensuing week so that large bulbs may be produced. The soil should be prepared and placed in readiness for the sowing. Use a compost consisting of three-parts fibrous loam, one part leaf-mould and one part manure from a spent Mushroom bed. Pass the compost through a fine sieve and add sufficient sharp sand to render the mixture porous. Use the soil in a moderately dry condition, pressing it firmly into well drained boxes. After sowing cover the seed lightly, firming the surface with a smooth board, water and place in genial warmth. An early variety or Peach house will prove suitable quarters. Cranston's Excelsior and Ailsa Craig are still popular varieties; Austin's Rival is also an excellent sort for northern gardens.

Peas Under Glass.—Where suitable accommodation is available for growing these under glass a sowing may now be made in pots. Sutton's Harbinger is an excellent sort for this purpose, being dwarf in habit and a prolific cropper. Use 6in to 12in pots, filling them three-parts full of old fibrous loam with a light admixture of leaf-mould and sand. Soil saved from Melon pits or Tomato boxes will suit admirably, provided it has been allowed to sweeten in the open for a time. Avoid overcrowding; eight or nine plants to each pot will be ample. A cool temperature with judicious ventilation suits it as nicely, and anything in the nature of forcing as it is generally understood must not be attempted.

Plants Under Glass.

Lilium longiflorum Harrisii.—Pot up more retarded bulbs of this popular Lily for succession and top-dress previous lots that are now growing freely. This Lily, being a stem-rooting variety, responds readily to this treatment, producing flower spikes of remarkable size and beauty.

Amaryllides.—Place a number of these in a warm pit so that they may be had in flower during April. Give a top-dressing of fresh soil to which has been added a sprinkling of Clay's Fertiliser; this will materially strengthen the flower spikes. Spray the bulbs lightly overhead morning and evening, and water carefully at all times, especially until growth is well started.

The Pleasure Grounds.

Shrubs and Trees with Ornamental Bark.—When planting shrubs or trees one should direct one's attention to the various sorts which display their beauty not only during the summer, but are more than attractive during the winter and early spring by reason of the effective colour of their bark. The red and golden barked Willows are especially attractive, particularly so if grouped on the margin of the lake or water garden. The various varieties of Dogwood are also effective. The colour of the plants mentioned may be considerably enhanced by cutting down annually and cultivating them as one year old stems. Other shrubs noticeable for the bright green of their stems are such as *Lycesteria formosa*, *Cytisus* and *Kerria japonica*, while white bark is conspicuous in *Rubus biflorus* ("The White-washed Bramble"), *Salix daphnoides* and *S. pruinosa*, with wax-like bloom on their stems, are most attractive. Silvery stems are very noticeable among the Birches, the white trunk of *Betula alba* being particularly effective, more especially when planted with Scotch Firs or other dark-foliaged conifers for a background. There are many other attractively barked trees and shrubs, so perhaps this note may help to direct attention to their merits.

JAMES McGRAN,

(Gardener to Sir Henry H. Houldsworth, Bart.)
Coatham, Kilmarnock

CONSERVATORY AND GREENHOUSE.

Introductory.—For a good many years before the war choice collections of stove plants had gradually been going out of favour with garden lovers. Many garden owners turned their attention to the cultivation of alpine, hardy herbaceous plants and choice flowering trees and shrubs; indoor gardening in respect of plants and flowers was to a great extent restricted to the growing of supplies for decorative purposes, either for the embellishment of the conservatory or for supplying plants or cut flowers for decorative purposes in the dwelling house. With this style of indoor gardening in vogue, many beautiful and interesting greenhouse plants were soon discarded. I refer chiefly to the many beautiful so-called hard-wooded plants from South Africa and Australia. Apart from Botanic Gardens, such plants are only cultivated to-day by a few commercial establishments, and they only cultivate a few varieties of the more easily grown Ericas and Acacias. The war years, with the lack of skilled cultivators and the high price of fuel, soon led to the abandonment of most collections of stove plants, with the result that at the present time most garden owners devote their plant houses to the cultivation of purely greenhouse subjects that require the minimum of heat; in fact, in many gardens the houses are still devoid of plants, being given over to the cultivation of Tomatoes and Cucumbers. It is sincerely to be hoped that this state of affairs will gradually improve and that choice collections of greenhouse plants may soon be quite common in good gardens. In the meantime the writer will endeavour from week to week to show how the greenhouse and conservatory may be kept more or less gay throughout the year, dealing with plants that may be grown successfully in more or less unheated houses, as well as those plants that require a certain amount of heat during their growing period, but will stand in a lower temperature when in flower. To keep a large conservatory well furnished throughout the year a certain number of growing houses are required, and, as indicated, some of them should be kept at an intermediate temperature during the growing season. For raising quantities of plants from seeds or cuttings a propagating house with some bottom heat at command is essential, but, on the whole, the cost of firing should not be a heavy item.

In restocking empty houses, or where quick results are desired, cultivators should first turn their attention to such plants as can easily be

raised from seeds, and it is surprising the number of useful and beautiful plants that can be raised in this way. Hardy and half-hardy annuals, for example, may be used with excellent effect. The writer well remembers some twenty-five years ago, when many gardeners used to poke fun at the cultivation of such plants for the embellishment of the conservatory at Kew. What was considered strange and trivial then, is a commonplace thing to-day, as witness the many fine examples of such plants that are staged every year at Chelsea and other large shows.

Annuals for greenhouse decoration are generally sown during September in cold frames; in the country such sowings usually give the best results. In the immediate neighbourhood of London such sowings, through lack of light, usually prove failures, the growth being weak and weedy. Here we find it best to defer sowing until early in the New Year. It is true the resulting plants are not so fine as when autumn sown, but with care quite good specimens can be produced, and for anyone who neglected to sow during September, now is a good time to make a start. The plants usually used for this work are *Acroclimium*, *Browallias*, *Clarkias*, *Collinsias*, *Godetias*, *Annual Larkspurs*, *Mignonette*, *Rodanthes*, *Salpiglossis*, *Schizanthus*, *Statice Suworowi*, *S. sinuata* and *Viscarias*. There are, of course, many other annual plants that keep the display up throughout the summer and autumn, but they will be dealt with in due course.

Tuberous-rooted Begonias.—Seed should be sown as soon as possible this month, and with good cultivation a large proportion of the resultant seedlings should make good flowering plants towards the end of summer. The compost for the seed pans should be of a light nature and should include plenty of well decayed leaf soil and sand to keep the whole open. The seed pans should be watered with a fine-rosed can, allowing them to drain well before sowing the fine dust-like seed on the surface. The seed should not be covered with soil, but a piece of glass should be placed on the top of the seed pan and stood in a propagating case with slight bottom heat, 50° to 55° being enough. They should not require any water until they germinate. If water is required, do not give it overhead, but stand the pan in a vessel of water and allow it to soak up. J. Courts.

Royal Botanic Gardens, Kew.

CHRYSANTHEMUMS

Treatment of rooted cuttings.

THE earliest batches of cuttings, inserted at the end of November and during the first half of December, will, before the middle of January, need re-potting. To the experienced cultivator the work is simple enough, but the novice does not find it so. Plants intended to bear large, refined blooms for exhibition require a long season of growth, the naturally late-flowering ones the longest of all. The rooted cuttings of these, inserted singly in small pots, as they generally are, must be shifted to larger ones in the same way as any ordinary plant when it needs re-potting. The rooted cuttings must not be taken direct from the propagating frame and re-potted, but first placed on a shelf or stage and gradually hardened to the temperature of the greenhouse itself.

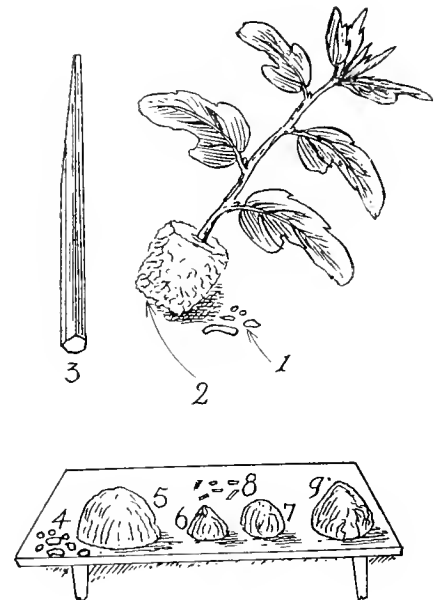
Should the leaves droop a little, apply clear water if the soil is really dry, otherwise merely spray them, which will have a beneficial effect. In the meantime get ready the various ingredients forming the compost, and clean crocks and pots. The compost should be placed in the greenhouse or shed for a few days prior to its being used; do not use it in a cold state direct from the open air.

We may now closely examine the sketches. Having carefully turned out the young plant, the few crocks (No. 1) should be very gently removed from the ball of soil (No. 2), so that the young roots, not very numerous at this early stage, are not damaged.

No. 3 shows a useful potting stick—cultivators will note its shape, blunt at one end, wedge-shaped at the other. The latter end should be used first

to press down the compost equally all round the roots; the blunt end will then nicely firm the soil without undue pressure, as at this first potting it is inadvisable to make the soil very firm.

The ingredients forming the compost are shown on the bench. No. 4 is the clean crocks required for one pot; No. 5, the good old fibrous loam, 1 bushel; No. 6, coarse, clean sand, a 6in. potful; No. 7, wood-ashes and rotted manure in equal proportions, a 7in. potful; No. 9, sweet leaf-soil, half a bushel. Of course, charcoal may be difficult to obtain; if possible, however, about half a dozen small pieces, as shown at No. 8, should be mixed with the rough compost placed on the crocks. No. 10 shows how the crocks should be placed; No. 11, the small quantity of rough compost on



POTTING UP ROOTED CHRYSANTHEMUMS.

which the ball of soil and roots of plant (No. 12) are placed; then the work of potting is completed by filling up and gently firming the soil placed in position all round the roots to the level shown. Mix the ingredients thoroughly.

The young plants must afterwards be placed on a stage or shelf about 18ins. from the roof glass. Spray lightly with tepid water and shade from strong sunshine. Be careful, however, when applying water not to create a continuously soaked condition of the soil. Do not shade at all when new roots are beginning to permeate the new soil. Continue the propagation of early-flowering varieties for exhibition; also freely insert cuttings of the numerous single flowered and decorative sorts.

GEORGE GARNER.

ORCHARD

GARDEN

WOODLAND

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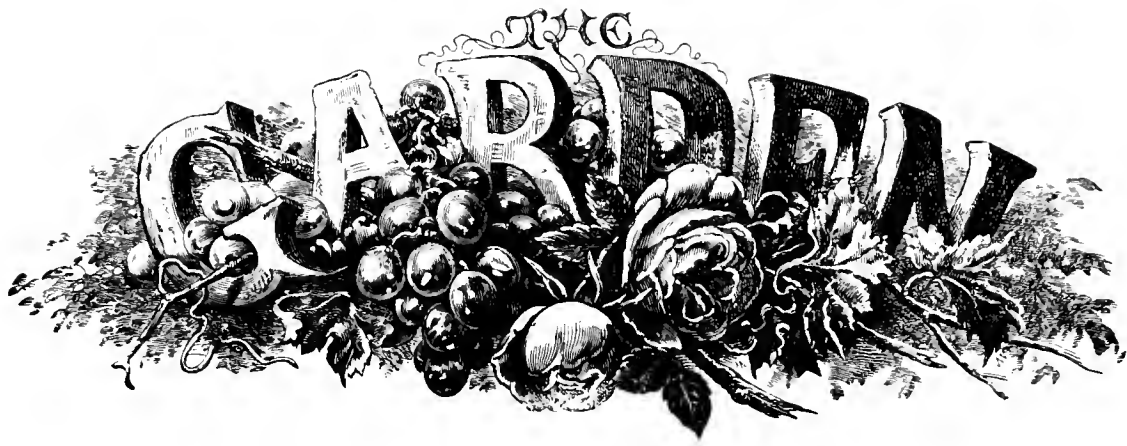
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THE announcement, made in our Correspondence pages, that Messrs. de Graaff, the justly famous Netherlands firm of nurserymen, have purchased land for a bulb farm in South Lincolnshire gives food for thought. Messrs. de Graaff, it may be anticipated, will employ to greater or larger extent British labour; they will certainly have to contribute their quota to British rates and taxes, so that the British bulb industry has no special need to fear their competition. It is surely worthy of note that while one big Dutch grower has been attempting to convince himself and other people that the British-grown bulb is fast dying a natural death, another even more important firm should have thought it worth while to establish a nursery here. Let us once obtain a go-ahead British Bulb Growers' Association and there will soon be room for immense expansion in the industry.

An International Exhibition?—It is now almost ten years since the great International Horticultural Exhibition was held at Chelsea, and it would surely be well if the powers-that-be were to take in hand the organisation of another one. It would not now be possible to arrange such a show for the coming year; indeed, it is high time the matter were taken in hand for an exhibition in 1923. Now that the long awaited International Iris Conference has turned out to be a French function, it behoves British horticulture to look to its laurels. The four years which will, in 1923, have elapsed since the close of hostilities in the great war, should have done much to restore nurseries generally to something approaching pre-war condition.

Care at Planting Time.

—The precautions advocated on page 17 with trees and shrubs newly arrived from the nursery may seem obvious, but experience has shown that they are, too often, not carried out in practice. Much loss of valuable plants which is attributed by the purchaser to insufficient transplanting or bad packing by the nurseryman is, in fact, directly occasioned by want of ordinary care in the interval between receipt and planting. Exposure to a bleak wind for even a few minutes will do

immense damage to the living roots of plants; to leave them exposed, as one often sees them, for hours—aye, even for days and weeks—is but to invite disaster. Where extensive planting is to be done, unskilled labour is often drawn upon. It behoves those in charge to be particularly vigilant lest grave damage come about through ignorance.

The Winter-Flowering Heath.—The favoured few whose gardens lie close to those coasts where break the waters of the Atlantic have usually many flowers to select from outdoors at this season. Even in Midland gardens it often happens that Violets, Primroses and Polyanthes may be gathered in January; but one always feels that they are stray flowers appearing out of season. One cannot think thus of *Erica darleyensis*, which usually commences to flower in November and continues the winter through. The very amateur gardener—perhaps, it would be truer to say the real novice—almost invariably purchases all kinds of plants in flower. He finds, in course of time, that this is not precisely the right time to buy and so often concludes that it is impossible to transplant plants in bloom. Because of this conviction, some gardeners refuse to take delivery of *E. darleyensis* in winter or spring. This is an entirely mistaken idea, as this Heath and the

other early flowering kinds may be moved in spring, autumn or winter with the greatest ease. The illustration depicts the Darley Dale Heath massed in a bed, but it can be used most effectively among occasional boulders arranged to suggest moorland effect. If a double season of flower is desired, it may be interplanted with the Cornish Heath (*Erica vagans*). Bluebells or Squills may, in any case, be planted between. Like *Erica carnea*, it may be used as a formal path edging. So employed it may be kept almost as neat and tidy as Box and still bloom freely each season. *Erica darleyensis*, is, it must be admitted, a common enough plant, but it is uncommonly useful.

Do Not Forget to include, when making out the flower seed order, a few packets of that charming hardy annual the Sweet Sultan, so charming in itself and so valuable for cut flower. Let no one despise the annual *Gypsophila* (*G. elegans*). It lacks, it is true, some of the feathery lightness of the perennial, *G. paniculata*, but it can be induced to flower at any period of summer and autumn, and therein lies its value. Those who have not done so hitherto can confidently be recommended to try that slender-habited hardy annual *Brachycome iberidifolia* (Swan River Daisy). The cactus or star-flowered forms are particularly charming. These, like the now too

seldom seen *Rhodantes*, make neat and pretty pot plants. No annual probably is more neglected or maltreated than *Phlox Drummondii*. The plant is quick growing in the early stages as well as a gross feeder, so that it is only too easy to produce stunted, useless plants. It makes but little fibrous root, and so removes unsatisfactorily from boxes. Grown right on, however, and planted out from 3in. pots into beds of rich soil, this is among the most effective bedding-out plants. Seed may now be obtained in separate colours, which is a great advantage. These annual Phloxes are too little used for cut-flower purposes. Many readers will, no doubt, wish to try the so-called "Blue Shirley" Poppies, of which "Somers" wrote so convincingly a while ago. Their colouring, it may be noted, sorts oddly with that of the true Shirleys, so that they should be kept apart.



JANUARY FLOWER ON *ERICA DARLEYENSIS*.

THE ALPINE HOUSE

A further list of suitable plants with notes on the proper composts.

OTHER suitable plants for the alpine house include the *Ethionemas*, all species and varieties from the compact and not too easy *juvunda* (*Iberis juvunda*) and the quietly beautiful *coridifolium* to the brilliant new Warley Hybrid. Then there is the multitude of alpine and dwarf *Campanulas* from which to make a selection. That quaintest of species, *C. Zoysii*, so beloved of slugs, must first have mention, but the tiny *Waldsteiniana* and the uncommon *Raineri* may have room found for them in the tiniest of glass houses. Easy though they be, *Portenschlagiana* (*muralis*), *pusilla* and varieties and *garganica* and its varieties are all worthy; while if space allow, the forms of *turbinata* and even *carpatica* may well be included. The pretty hybrid *haylodgensis* is very desirable, and there is a specially beautiful double form. The double form of our common Harebell, *C. rotundifolia* fl-pl. is beautiful and interesting; so are *valdensis*, *Stansfieldi* and *Steveni nana*.

Of the *Cranesbills*, the best for our purpose, owing to their "finish" and neatness of growth, are *Erodium amannum* and *Geranium Traversii*, the last named a very welcome New Zealander. *Geranium sanguineum*, the Bloody *Cranesbill* of our own hillsides, is beautiful and effective where space can be spared for it.

Of the *Geums* the only "indispensable" is the too uncommon *reptans*, but the quietly pleasing *rivale* Leonard's variety may be considered worth a place.

Haberlea rhodopensis and *Ramondias*—*pyrenaica*, at all events—we must have. The beautiful pure white form is exquisite under glass. Care must be taken to keep these free from red spider and to turn them out into cooler quarters immediately after flowering.

The trailing *Veronicas* are too coarse for the alpine house, but some of the tiny "shrubbies" should find a place. Such are *Catarracta*, *sah-cornoides*, *cupressoides*, *epaeridea* and, where possible, the larger *Hulkeana*.

There are several quite small species of *Potentilla*, but none to approach the beautiful *nitida*. This should have a place with the beautiful pure white form if possible.

When writing of *Primulas*, the charming *Julize* should have been included. There is nothing better for our purpose. There are now several rose to crimson hybrids between this and our native *Primrose* (*P. acaulis*). Some of these would here be seen to advantage, and their foliage bears inspection. Of *Primula rosea* it is scarcely necessary to write. Most people would wish to include it.

Of the genus *Lychnis* *L. Lagasce* should be included, while the quaint little *L. alpina*, so beloved of bees, may be grown if desired. It should be renewed periodically from seed. Of *Silenes*, *alpestris* and *Schafta* should find a place.

Of *Forget-me-nots* *Welwitschii* is too rampant under glass, but space will assuredly be found for the wonderful *Ruth Fischer*, if not for the tiny *Rehsteineri*.

The alpine house is the only really fitting place for the hardy *Sarracenias*. Here, in a compost largely composed of sphagnum, they will flourish.

Of the *Arenarias*, all are beautiful, but, despite its freedom of growth, *A. montana* is too lovely to be omitted.

Among *Woodruffs* the tiny *Asperula Gussonii* and the wee pink *suberosa* are charming. Of the rhizomatous *Anemones* there are several beautiful

woodland-compost-loving forms of *A. nemorosa*. Both *Robinsoniana* and the newer *Alleni* are delightful, so is *Blue Bonnet*. The chalk-loving *Pasque Flower* (*A. Pulsatilla*) is worthy of the closest inspection, so particularly at home here.



THE VERY BEAUTIFUL LILAC-PINK OXALIS ADENOPHYLLA.

Halleri is a very beautiful variety, and there is a charming pure white form. Little colonies of *A. blanda* will, in early spring, be very welcome.

None too hardy outdoors, those two tiny *Snapdragons*, *Antirrhinum Asarina* and *A. glutinosum*, will here be at home. So will the lime-loving *Douglasia* (*Androsace*) *vitaliana*, which, to flower freely, needs abundant sunshine.

Of the forms of *Alyssum*, *montanum* and *spinosum* are most suitable. There is a pale pink form of the last—*A. spinosum roseum*.

The quaint little hardy *Calceolaria polyrrhiza* should have a place, so should the gorgeous heat-loving *Calandrinia umbellata*, which is not a long-lived plant. It is, however, easily raised from seed.

For a cool corner a little patch of *Cornus canadensis* would be charming, while contrast may well be obtained from the bronzy rosettes of *Corydalis cheilanthifolia*.

All the hardy *Cyclamens* are suitable and easy if kept out of full sunlight and given a light, well drained compost containing mortar-rubble. Also cool loving are the numerous *Shooting Stars* (*Dodecatheon*).

Of trailers, *Linaria pallida* is one of the most valuable, but the tiny *Arenarias balearica* and *caespitosa*, *Hernaria glabra* and *Hutchinsia alpina* are all valuable, as is the bronze-leaved *Epilobium Hectori*. Very different is the procumbent *E. obcordatum*; it is, however, quite effective. *Epilobium* naturally brings to mind those herbaceous *Berberids* the *Epimediums*, which may readily be brought to flower early under glass. The best species is unquestionably *niveum*; there is a beautiful pink variety *E. n. roseum*. Another beautiful species is *E. sulphureum*.

Of the *Hypericums* *H. reptans* is alone worth house room. This, everyone is agreed, is a charming species.

Of the *Mertensias*, most species are too coarse for the purpose in view, but this does not apply to the charming *M. primuloides*.



BELOVED OF ALL—EVEN THE SLUGS!—THE MINUTE CAMPANULA ZOYSII.

Coming now to the Wood-sorrels, those charming exotics, *Oxalis enneaphylla* and *O. adenophylla*, are specially suitable, so is the beautiful but little-known winter-flowering *O. lobata*. This has yellow flowers.

The alpine house is a happy place in which to grow some of the smaller and more beautiful *Pentstemon* species, for this is a genus which contains, among a deal of worthless rubbish, a few really beautiful alpine species. One of the most beautiful is *P. coruleus*, which, also known as *P. angustifolius*, is a neat plant which carries its lavender-blue flower-spikes erect, in which it differs widely from *P. alpinus*, of which, however, the colour approaches more nearly a true azure blue. A quaint scarlet-flowered species is *P. Newberryi*, which should not, of course, be confused with the hybrid *Newbury Gem*, to which it is in no way related. Neatest and most truly alpine of all is the now generally familiar though not widely grown *P. Davidsoni*. Its flowers are rather startling in colour owing to the touch of blue which enlivens their brilliant red. Plants in pots and pans, however, can always be arranged to prevent colour clashes.

Of the alpine *Violas*, *V. gracilis* is indispensable and our native *V. lutea* very lovely.

There are, of course, numbers of excellent plants which have not been mentioned in the foregoing notes, and much will depend in making a selection upon the personal tastes and inclinations of the would-be grower, his facilities for growing alpine outdoors and the aspect and character of the house or houses to be allotted to them. Some will wish to grow species reputed to be difficult, such as *Eritrichium nanum* or *Cyananthus lobatus*, though this last is easy enough under glass. Others, again, will try to establish collected alpine plants. These are not always satisfactory from the point of view of flower, however. *Silene acaulis*, to take but one instance, is in our lowlands poor in colour, whether grown under glass or outdoors; not too free-flowering even in its native mountains, it is usually over-shy in cultivation.

Important enough in the rock garden, proper composts are all important under glass. Plants of the damp alpine pastures are best accommodated in a compost, consisting largely of sphagnum, such as was described in the article on seed raising in our issue of December 24th last. Plants which require lime may have the essential ingredient



CAMPANULA GARGANICA HIRSUTA AND ITS WHITE VARIETY (ILLUSTRATED) DISPLAY THEIR BEAUTIFUL FOLIAGE TO ADVANTAGE UNDER GLASS.

provided in the form of broken (not powdered) limestone, old mortar rubble or broken oyster shells. Small washed gravel is very useful for equalising the supply of moisture. In addition to its use in actual compost, pans of drought-hating plants may be plunged in it on the staging. In the case of "miffy" plants, such as the various species of *Cyananthus*, which need ample moisture, but easily damp off in the lowlands, a liberal admixture of small coke will be found a considerable safeguard. Two ingredients the writer has found much overdone for alpinists in pans. They are peat and sand. The former should never be used alone, and not at all except for peat-loving plants, and sand as a separate ingredient should be banned. It is usually employed

with the idea of making the compost porous. Its effect is, of course, the reverse. For plants which outdoors flourish on the "moraine," a moraine compost should be employed under glass. This should consist of at least three parts of suitable ballast, fine gravel, broken potsherds and small coke to one part of soil compost, which should in the main consist of clean fibrous loam with additions of peat, leaf-mould or mortar rubble to meet the special requirements of the individual species.

RIVIERA NOTES

DECEMBER has proved, as usual, one of the finest months of the year. It began well with two days of good rain, but the drought has not been broken since, so that much watering is necessary to keep the garden going. Fragrance is, I think, the note of this month, for *Chimonanthus fragrans*, *Buddleia auriculata* and *Freylinia cecyloides* are all in fullest flower and fill the still and sunny air with their scent that lingers in a way that no other season permits. No garden on this coast should be without these delightful and hardy shrubs.

Dimorphothea aurantiaca makes a specially bright patch of colour on a sunny terrace also. It is an annual that is not planted as freely as it deserves, and serves as a useful contrast to the Chinese *Prioules*.

The scarlet-flowering *Aloes* are among the succulents that enjoy sunshine and drought, and are already in flower earlier than usual, and the trails of pink Ivy-leaved *Geranium* are also prettier and more full of flower than usual.

I never saw *Bignonia venusta* in better flower than it is now, spite of last year's cruel December frost.

Heliotropes have suffered much from the drought following on that last year's frost and



OXALIS LOBATA PRODUCES ITS FLOWERS OF DEEPEST GOLD IN LATE AUTUMN.

are much less beautiful than usual. *Lopèzia miniata* has, on the other hand, enjoyed the season and is a mass of its dainty flowers.

There is at last a movement of protest against the poverty and banality of the public gardens at Nice and elsewhere. Journalists and French gardeners are beginning to realise that Palms and grass, with bedded out little parterres of *Primulas*, *Pansies*, *Cyclamen* and the like, need some setting of *Cypresses*, *Carob Trees*, *Umbrella Pines* and other indigenous trees; and the *Orange* and *Lemon* and *Olive tree* are not to be despised because they are so common in the countryside.

There is a comparative scarcity of "*Mimosa*" this year, as so many perished in that bitter frozen wind last year; and *Acacia dealbata* will reign alone this season in the markets.

Iris stylosa, which is reported to be blooming so freely in England, is hardly yet able to make a presentable show, the flowers are so short-stalked and poor owing to the drought. I have no doubt that various early forms of *Narcissus tazetta* will be in bloom in some Northern gardens long before they dare to grow here!—a curious inversion of the ordinary state of things. May the new year grant us good rains! E. H. WOODALL.

The Cult of the Tuberous Begonia

Its origin and developments, propagation and culture.

LOOK at the tuberous-rooted *Begonia* as we see it to-day at some great London exhibition! Proud and serene, conscious of its incomparable beauty and magnificence, in both single and double forms, embracing a range of colour that few flowers can excel. These magnificent flowers have been achieved by patient cross fertilisation and selection, by constant intermarriage among but a handful of species, all of which, by the way, save one, bear red flowers. The first of these species was only introduced into England as comparatively recently as 1857. A marvellous story truly, and a flower before which we can but bow our heads in amazement.

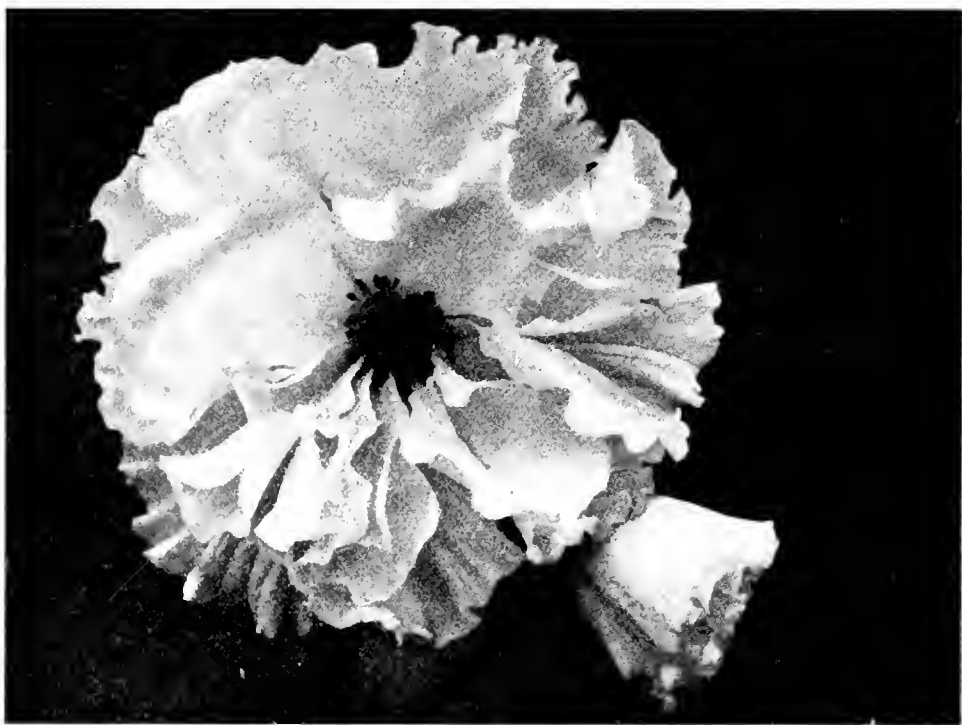
The year 1857 saw the introduction of *Begonia boliviensis*, a species with small scarlet flowers which is seldom—if ever—seen nowadays, followed eight years later by the yellow-blossomed *B. Pearcei*. These, no doubt, were hailed as wonderful introductions by the garden lovers of the time. They proved to be the founders of that gorgeous family which is so appreciated to-day. Both these were natives of Bolivia, but the next introduction—*B. roseiflora*, introduced in 1867—came from the Andes of Peru. In the same year, the orange scarlet *B. Veitchii* was also introduced, again from the highlands of Peru. Then came a long pause, for it was not until ten years later, in 1876, that the last species—*B. Davisii*—in our chain of parentage appeared before the public.

From that time a continuous improvement has been maintained right down to the present day: one triumphant succession of increasing size of flower, vigour of foliage and hardiness of constitution. At first these plants were regarded as demanding stove treatment to secure success, and men's hair would have stood upright at the mere suggestion of planting them out in the open for summer bedding! Wonderful as all this is—for, in effect, an entirely new plant has been created—I have often asked myself the question, "Are all the possibilities behind us?" Is the modern tuberous *Begonia* still capable of fertilisation by one or another of its forebears; and if so, what would be the effect of harking back to one of the original parents? Only last year seed was offered for the first time of a new strain, known as the *Narcissus-flowered*. I have yet to see this, but it is described as "a remarkable new race of tuberous rooted *Begonias*, producing flowers resembling in shape a double trumpet *Daffodil*, the inner petals being joined into a large double corona, with petals elegantly waved and frilled at margin; in colour, the flowers range from light to dark yellow, orange, buff, blush, rose, dark red and scarlet." This is but another step on the way, to show that the end is not yet; and, provided our "new" plants and strains still remain capable of fertilisation by one

or another of the older parents, new and still more striking breaks may still be procured by retracing part of the road and re-treading it. There is a tremendous fascination in all this speculation and

warm, the batches of plants will flower within a week of each other.

Very fine soil is essential, as the seed itself is so very minute. Shallow wood boxes are excellent receptacles for the purpose of sowing seeds where quantities are to be raised, but, where possible, seed pans are better. In either case, plenty of crocking material should be used to ensure effective drainage. To keep this from becoming choked up by the finer earth, a layer of rougher soil or moss should be placed over this. It is only the top in. of compost that needs to be very fine, and this should be made quite firm and very smooth and level. Water through a fine-rosed can and then set aside for a few hours to drain before sowing. This sowing is a ticklish business, for, while it is desirable to sow thinly enough, so that the young plants will not require pricking off until of some size, this is, owing to the minuteness of the grains, by no means easy of accomplishment. The old time-honoured dodge of mixing with a rather larger bulk of very fine silver sand facilitates thin distribution as well as anything. Sowing completed, the vessels containing the seed should be covered with a sheet of dark paper and a pane of glass, for



THE LATEST TYPE OF BEGONIA, SUTTON'S DUPLEX, CORRESPONDS ROUGHLY TO THE PÆONY-FLOWERED SECTION IN DAHLIAS, BUT HAS MORE REFINEMENT AND FINISH.

experiment, and I, for one, certainly mean to investigate along the lines I have indicated.

Culturally, the grower's thoughts turn at the present time to seed sowing; that is the first operation of the year and the sooner it is done now—provided that adequate heat can be maintained—the better. Early sowing means earlier flowering with a correspondingly longer season of flower harvest in summer and autumn; but if a sufficient temperature cannot be procured thus early in the year, sowing can be delayed until the end of February or early in March, and the flowering plants still be obtained by the middle of August. Nothing is gained by merely sowing the seed and persuading it to germinate, unless one can keep the youngsters growing; better defer it for two months even, for I have proved that a couple of sowings may be made six weeks apart and yet, unless the earlier sowing was kept additionally

one cannot attempt to cover the seeds at all with soil, and the paper serves to ensure the darkness that is essential to germination. Reverse the glass daily to disperse the inevitable condensation and do not water until the surface requires it. It must then be done from below, as it is impossible to water from above without disturbing the wee seeds, possibly when just at the point of germination. Lower the pans into a vessel of tepid water so that this rises to half their depth and wait until it has percolated through the surface; then lift out, drain and replace the glass as before. A temperature of 60° to 70° is sufficient, and, for soil, I prefer a good yellow loam sterilised by baking, to which one part of sand has been added. Leaf mould, that is used at a later period of their culture, should be tabooed as it encourages the growth of green moss, that overruns the seedlings and checks their growth. For the same reason, use

main water for moistening the soil when this is required; that in the under-stage tanks very often contains the spores of various mosses that begin to grow as soon as they fall upon the kindly soil. Germination should be followed by the entire removal of the paper and the gradual removal of the glass, and then regular watering, so as to keep the soil evenly moist, is all that will be required until the first pricking off is done. This needs extreme care, for nothing is more brittle than a baby Begonia. To prick out thinly in fresh pans or boxes is the best method, for the largest leaves will not at this time be larger than a tack head. They should now be grown on until the largest leaf is about the size of a penny, before finally potting in separate pots.

Let us leave these at this stage and turn our attention to another phase—starting the tubers. It does not matter whether the ultimate destination of these is beds outdoors or culture in pots for procedure is the same. Take out the tubers from their storage place and carefully look them over, to make sure that they are in perfectly sound condition. Any that show signs of decay should be examined to see if this has spread through the whole tuber or if a portion only is affected. If the latter, cut this out with a sharp knife and powder the cut surface with finely crushed charcoal. Shallow wooden trays may be employed for starting and, after many experiments, I have found nothing that is more satisfactory all round than pure leaf mould. Some growers, however, prefer coconut fibre. Fill the boxes to the top with whichever is selected, firm slightly and press the tubers into it, so that they are just level with the surface, but not covered. A temperature of 55° to 65° is ample to start these growing freely, a process that is facilitated by damping down and sprinkling the surface through a fine-rosed can. Do not get the leaf soil over-wet, however, and note that the surface of the tuber is slightly concave; water if allowed to collect in this cavity will rot the young shoots. Keep in a good light and as soon as well started, pot off singly those which it is desired to grow in the conservatory. Plants that it is intended to grow in the open should be allowed a little more space in the boxes and can then often be grown on more slowly, hardened off and planted direct from the boxes into the beds without the need for potting at all. A good compost, both for young seedlings and older tubers that are to be grown in pots is a *sine qua non*, and one will find it hard to beat one of three parts fibrous yellow loam and two parts of leaf mould and one part each of decayed manure and silver sand. The size of the pots must, of course, vary with the size of the tuber—a question of age—1 ins. to 2 ins. all round being sufficient margin. Personally, I am adverse to very large tubers; it is in the second and third year that the grandest flowers are produced, and after that time the large tubers should be used perhaps for bedding, while other younger and more vigorous plants from seed should replace them under glass. Until buds form, a moist atmosphere promotes quick growth, and the staging, etc., between the pots may be syringed freely with advantage; but once buds commence to form, a drier condition of the atmosphere is imperative or they will drop these buds "wholesale." A certain amount of shading from exceedingly bright sunlight must, in summer, be arranged for, though it is an error to shade the tuberous Begonia too heavily. Break the light with a thin screening only; a thin blind is the best method as this can be run up and down as required. Watering is the chief item that now needs attention, for the more even the state of moisture in which the soil can be kept, the better the flowers and buds expand. Over-watering causes a rush of sap to rise in the stems and forces the buds off at the top; on the

other hand, drought reduces the flow of sap and the buds fall from that cause too. When water is needed, enough should be given to soak the whole ball right through, then no more until the surface begins to dry. The circulation of air, too, must be perfect; a light and buoyant state of the atmosphere is as important as even moisture at the roots. Feeding, too, is an important item, for the Begonia is a very gross feeding plant, capable of absorbing large quantities of plant food, upon the principle of "weak and often." Liquid manure, made from animal droppings, chemical fertilisers, nitrate of soda, soot water, can all be employed in turn, varying these as much as possible, using them really weak and always after watering first with plain water so as not to burn the roots.

Towards autumn is a critical period, for many tubers are lost annually owing to imperfect ripening. The ripening off should be done as slowly as possible. As the foliage yellows reduce the supply of water—but not suddenly—and on no account separate the stem from the tuber until it falls away naturally. Once completely dried, lay the pots on their sides in a frostproof place with the tubers in them, or, if they must be taken out, clean them and store in dry earth until spring. Started tubers which are to be planted out in the open, should be prepared for this by a very thorough hardening-off process, transferring first from the greenhouse to a cold pit, which must be kept closed and matted up at night. Then gradually admit air until the first week in June, by which time they should be capable of standing entirely exposed both night and day, ready for planting out.

A sunny position is better for this than shade and the ground should have been very thoroughly prepared and manured some time previously. A mulch of old manure, a week or two after planting, is a useful aid to keeping the roots in that equable state of moisture that is so conducive to fine foliage and free flowering. Few things can be more vivid

—from the point of view of colour—than these inimitable flowers, especially the singles, though the smaller doubles (as used at Hampton Court, in association with *Leucophyta Brownii*) are capable of gorgeous effects when confined to one colour alone. When the first severe frost comes the tops will be cut back to the ground level and the tubers should then be lifted and laid out in a frostproof place to dry. When the soil has become so dry that it all powders off the tuber, the skin of these will have toughened sufficiently to enable them to be cleaned and stored away for the winter.

Should one have a special variety that one wishes to propagate true to type, this cannot be done by seed, and cuttings must be taken in summer. These are not easy to root, but careful handling will ensure good results. Cuttings are formed from the side shoots, which must be broken out at the point at which they spring from the main stem. It is useless to sever them just beneath a joint in the usual way, for when this is done—although they form roots freely—the tubers never swell to a greater circumference than that of the stem at the time of rooting; whereas those broken out close to the point at which they broke from the main stem will expand in the normal way.

Allow the plants to become rather dry for a day or two before snapping out the cuttings, as this reduces the sap flow and hastens rooting. Very sandy soil should be used for inserting, taking care that the base rests upon a little heap of sand, and keep the foliage fresh by placing in a closed propagating frame. Very moderate supplies of water only should be given, and when growth recommences from the tip, take them up and pot separately, growing on exactly the same as seedling plants. Cuttings can be taken any time from the period when the side branches are sufficiently long until August—though the earlier it can be done the better, as a fine tuber is thus obtained before autumn stays further growth. H. W. C.-W.

PRECAUTIONS IN PLANTING

Many trees and shrubs are, each season, lost through neglect of simple precautions at planting time.

CHRISTMAS in this country seems to be a real dividing line for work in gardens. We, most of us, speak of work to be done before Christmas and work to be begun in the New Year. Many like to do the bulk of their planting operations in the autumn, and, indeed, in light, dry soils it is the safest time for most shrubs, at any rate. The ground, if work is begun in early autumn, is warm and, given moisture, which in most years comes with great regularity, encourages quick root action, which is so desirable in all transplanting. As the growth of a plant matures in autumn, the energy of growth goes into the roots and this is practically automatic.

Root growth is undoubtedly at its maximum at this period. In hot, dry soils the autumn establishment of newly planted specimens is very valuable and saves many anxious moments during the following spring and summer. It is wonderful how small an amount of new root in a plant will ensure safety.

On the other hand, many favour spring planting, and in heavy soils it is sometimes impossible to plant until the soil has been weathered and breaks up into a fine friable condition. It is a good time to plant just as things are moving from the dormant condition, and many evergreens move without much check when they are actually commencing their growth. The writer has moved

Conifers, such as Austrian and Corsican Pines, Douglas and other Firs when they had made 2 ins. or 3 ins. of growth in late May and June, with great success.

In a nursery the time to move and plant up stuff of all kinds is when an opportunity can be found to do it, more than choosing the right moment, and given that plants are not too badly rooted, it is extraordinary how little loss is incurred. But this is the important point: Insist on good roots. One might paraphrase an old saying: "Take care of the roots and the tops will take care of themselves." In choosing plants from a nursery do not be led away by plants which look in full vigour of growth, with heavy foliage and long leading shoots. One may depend that with a gross appearance of growth on top there must be a corresponding vigour of roots, and once big roots appear the difficulty of successful transplanting is increased. Look rather for plants with short leading shoots, comparative thinness of foliage and an air of thriftiness generally. This to an experienced eye is easy to see and cannot be mistaken, by one who knows, for bad health.

Another point which is, perhaps overlooked is the difference of moving plants in one's own garden to purchasing from a nursery and receiving the consignment three or four days later, after having been handled several times, and that

not too carefully. In addition, the weather may be dry with a keen, evaporating wind. In the first case the plants can be lifted with a large ball of earth, much larger than an ordinary nursery plant can carry, and are taken from one position to another in a few moments, and the roots are scarcely exposed when they are again covered; so handled there is little cause for failure. In the other case the plants have to be taken first from the nursery to the packing sheds, there to be packed as carefully as possible and often with good balls of earth attached. They then are loaded in a van, transferred to the railway authorities, who handle them again two or three times, and, on arrival, there is a further process of unloading and loading till in the purchaser's hands. Even then their troubles are not over. Packing has to be removed, and when finally planted, it is seldom that much soil remains round the roots, and all this after perhaps three or four days out of ground.

There is a big difference in these points, and it is not always the nurseryman's fault when losses are incurred. This comparison of home and imported plants is made with a view to showing that although the season may be right, there are other reasons for failures, and plants so received should be given every possible help when planting.

Although there is a best time for everything, it is not always possible to avail oneself of it; but we are so fortunate in our climate that it is not of such great consequence after all, and we can go ahead with planting operations from October to May without incurring any great risks. Of course, from time to time we are held up by excess of rain or, perhaps, frost, although in recent years we have not been affected much in this respect. In the winter of 1895 ground operations were held up by the great frost for about eleven weeks. The frost that year penetrated to a depth of 2ft., and it took nearly three weeks of warm, sunny weather to thaw it out after the frost had ceased. Planting operations that season were much restricted. Such a winter may occur again, and after so severe a drought as we have gone through the last twelve months, and taking into consideration the particular effect of it on last spring's planting it will be well to take advantage of the right moment as far as may practically be possible.

Another important point is to look after plants properly immediately on arrival. The writer has from time to time seen a truck load or more of trees lying about all over the place, exposed to the four winds of heaven, frequently with roots exposed. The planting gang cannot plant every one at the same moment, and it seems advisable that a good system of receiving stuff should be adopted. For instance, upon arrival, verify first the contents of the package or truck and check it with the original order and delivery note. Make sure the plants are not dry, or if they should be, have them moistened. Choose a sheltered spot for unloading, and if any quantity has to be dealt with, have them laid out in their various kinds, so that each may be easily taken out as wanted, and cover the roots with litter or loose soil. When each plant is allocated to a position it is a then simple matter to pull out what is wanted. Never plant in a dry condition, but first either thoroughly soak the root or ball of a plant or water it in before finally filling in the hole with soil. These precautions would save many disappointments and many grumbles.

When finally the plants have been covered in, take care the ground is well trodden, and in light soils it cannot be trodden too firmly. The larger plants will require to be staked or supported so that they cannot blow about. Nothing is

worse for newly planted trees than to have a continual backwards and forwards movement which by degrees produces a considerable space

round the stem of the tree just where it joins the soil. Any tree loose at the "collar" like this will have difficulty in surviving. F. G. W.

THE IMPORTANCE OF CONTRAST IN TREE AND SHRUB PLANTING

WHEN planting a shrubbery or belt of trees, contrast of habit and foliage should be borne in mind as equally important as variety and contrast in flower.

In the case of deciduous trees, contrast in arrangement of the naked stems and variety in the colouring and appearance of the bark should also be provided for.

Contrast in foliage is not easily illustrated photographically, but the exotic pale green leafage of the Tree of Heaven (*Ailanthus glandulosa*), even in the picture, forms a remarkably effective contrast to the more rigid habit of the surrounding hard-wood trees.

The other picture illustrates, not ineffectively, a shrubbery border in which diversity of habit and of foliage have alike been exploited to good effect.

It may not be inappropriate to consider a few particular instances where such contrast has been found effective. Silver Birches and Scotch Firs will probably suggest themselves to everyone as representing an ideal in trees. Hardly less effective, however, in association are the Austrian Pine and Lime. The false Acacia (*Robinia Pseudacacia*) contrasts effectively with the round-headed Quickthorns, particularly the single scarlet variety (*Crataegus Oxycantha punicea*). The gold or silver variegated Negundas (forms of *Acer Negundo*) are often associated with the Purple Plum (*Prunus pissardii*), but here the contrast is almost entirely one of colour. A bold but irregular grouping of these Negundas on soil which suits them will look very beautiful against a background of Purple Beech. Reverting again to plantation effects, one of the most effective contrasts, albeit a seasonal

one, is provided by the tender green of the new foliage of the Larch against the black-green of dark Pine or Spruce.

Their value as contrast justifies the inclusion in mixed shrubberies of some of the upright Cypresses, Junipers and Yews. Their columnar habit and characteristic, if varied, foliage contrast wonderfully with round-headed trees and bushes, such as those of the Thorn, Lilac or Broom, or with spreading trees like the Laburnum or some of the ornamental Pyruses. Where space allows, the Cypresses, particularly the *Lawsoniana* forms, are inferior in general appearance, and especially inferior for the particular purpose in view, to many of the Firs. No tree of aspiring habit can excel in beauty a well grown and reasonably mature Spruce. The Oriental Spruce (*Picea orientalis*) is particularly fine.

Plants somewhat tabular, such as *Cotoneasters horizontalis* and *adpressa*, *Viburnum tomentosum plicatum*, *Taxus Dovastoni*, and many of the dwarf Junipers, especially the beautiful *tamariscifolia*, are particularly useful for the contrast they afford to shrubs of more usual habit.

The value of the various coloured barks for producing winter effects was touched upon under "Gardening of the Week" in last week's issue. It may be noted in passing, however, that a very pleasing contrast alike of habit of growth and bark coloration is provided by associating *Cornus sanguinea* and *Kerria japonica simplex*. The latter shrub is too often neglected in favour of the grosser habited double-flowered form which, though effective enough when massed, has little grace of spray or beauty in the individual flowers. The cret habit and tawny bark of many of the *Deutzias* make them invaluable in the shrubbery.



A WELL ARRANGED SHRUBBERY BORDER. NOTE THE CONTRAST IN HABIT AND FOLIAGE COLOUR.

The same may be said of the stronger-growing varieties of Philadelphia.

Rhododendrons and Lilacs have the natural contrast afforded by the tough dark foliage of the evergreens and the lighter, more flimsy leaves

Further contrast in the shrubbery can be well afforded by the introduction of bold masses of hardy Heaths or of herbaceous plants of sorts. This point has often been touched upon in THE GARDEN, so that there is no need to labour it, but

the value of groups of coloured Primroses—perhaps blue ones if these are admired—Polyanthus, or, better still, coloured Cowslips, cannot be over-estimated.

If the shrubbery is of really effective dimensions and in not too bleak a situation, a few kinds of hardy Bamboos may be introduced, always remembering that, in their place, the small sorts are as effective as the larger growers. Even in a narrow shrubbery room can be found for, at any rate, a few clumps of Yuccas, though they be only filamentosa or flaccida. Then, too, there are the Pampas Grasses with autumn plumes of silver or pink, as personal taste may select. It is a pity, though, that the pink ones do not retain their colour longer; while where these would prove too large there is quite a variety of Miscanthus (Eulalia) to fall back upon.

Some people have a natural gift for forming garden pictures; to some it seems denied, but it is very doubtful whether the "gift" goes really much further than careful observation applied

to practice. Whether by early training or by inheritance, some folk are undoubtedly much more observant than others, but observation is a part of education not difficult to acquire. It is undoubtedly an invaluable part of the gardener's mental equipment.



AILANTHUS GLANDULOSA IN A MIXED PLANTATION.

proper to a deciduous bush; but, somewhat alike in their round-headed habit of growth, either may be used to contrast with shrubs naturally fountain-shaped—that is, with arching branches—such as most Berberises, but especially stenophylla and many Brooms.

THE BUSH APPLE TREE

Its training and pruning.

IN your issue of December 14, page 656, Mr. A. H. Pearson takes exception to some details of training and pruning I recommended in an article on page 621. In the first paragraph of his notes he states that I "write from an amateur's point of view." I do not know whether or not this is intended as a compliment, but I do know that if our gardening journals were to lose the support of their amateur writers they would be shorn of many of their most attractive and interesting attributes. However, I am content to write as I have worked—simply as a gardener; I neither claim nor wish for a higher distinction. In the article under notice I advocated the claims of what I like to call the "cordon-trained bush," consisting as it does of so many main branches, or cordons, rising from the base of the tree. Even

from the start, such branches are sturdy and rigid, and become more so as they grow older. Some are more upright in growth than are others, according to the habit of the variety, but all are practically rigid and strong enough to carry a heavy crop of fruit without props or help of that sort. This rigidity and strength of branches are secured by shortening the terminal summer shoot at winter pruning to within 9 ins. of its base. The pruning is repeated each year in the same way and at the same time. Mr. Pearson speaks of "a cup-shaped bush which," he says, "is quite good for amateurs and admired by me, but that it has certain serious disadvantages, because," as he says, "to make a really nice-looking tree of it, it is necessary to bend out the branches at their base, and then turn them upwards and support them with stakes while young, and even

throughout their subsequent career." I must confess that I have no knowledge of a system of training bush trees in which the main branches are required to be kept in leading strings for so long! Then Mr. Pearson goes on to say that he prefers the pyramidal form of training for the Apple, rather than the bush. One of the greatest charms of the art of gardening lies in the fact that there is scope enough for each one to indulge in his own predilections as to methods and practices of culture, and yet for each to reach his own goal in his own way. For my part I much prefer the bush when trained in the way I have attempted to describe, rather than the pyramid. The latter is largely made up of its main stem, or centre column, and the base of the main branches arising from the same, and from which little or no fruit is ever gathered. The tapering shape of the tree reduces its fruit-bearing capacity very considerably, and its height exposes the fruit to damage from high winds. Moreover, it is more costly in management, entailing more labour in the use of steps and ladders in pruning and in gathering the fruit. Heavier crops of fruit are, in my opinion, to be obtained from the same area of land from bush trees, the method of training exposing the branches to a greater diffusion of light, air and sunshine than does any other method of training I know. Besides, the trees can be pruned and the fruit gathered from the floor level—no small advantage where many such bushes are grown. Their lower stature also protects them more or less from storms of wind.

However, it is on the subject of spur pruning which I advocated in my article that Mr. Pearson is so severe upon me. He says, "I have long ago come to the conclusion that of all the evils which fruit growers suffer from, close pruning is the most disastrous. Yet Mr. Thomas says the spur system consists in cutting back all side shoots growing out of the main branches to within (in the case of the stronger shoots) two buds of their base, and in the case of shoots of moderate vigour to within one bud of the base. Now," says Mr. Pearson, "this to my mind is rank heresy, and the result nothing but strong wood growth, and no fruit could by any possibility result until the tree was either exhausted or very far stricken in years." I hope by now that Mr. Pearson's indignation has somewhat cooled down, and that he will permit me to ask him a question or two. Has he ever seen the branches of a fully grown spur-pruned trained Pear tree growing against a wall in full flower in spring, and in autumn laden with their crops of fruit? Has he not seen old Apricot trees, grown and pruned on the same method, equally as happy and fruitful? Has he not also seen the spur-pruned branches of espalier and cordon Apple trees equally as happy and fruitful? Of course Mr. Pearson has. Would he be surprised to hear that such trees had been pruned on the spur system of pruning for generations by the best gardeners of other days, as well as by those of the present? Mr. Pearson is a bold man to condemn a system so venerable and so venerated as this for its great services in the past in dealing with fruit trees grafted on dwarfing stocks and grown in restricted positions such as I have had in my mind. What then, may be said of Mr. Pearson's contention that, if this old system of pruning is persisted in, it will lead to the disastrous results he predicts? and may I further ask what has Mr. Pearson to offer us in its stead? A system which I presume is his own—at any rate, I have not heard of it before—namely, a modification of the old system, which I think may justly be termed a sort of bastard spur pruning. It consists in cutting back the summer

shoots of the main branches at winter pruning to within six buds of their base, instead of two buds, as I advocate. By doing this he wishes growers to understand that after two young shoots have appeared at the top of the cut shoots the following summer, and they have been stopped or summer-pruned at the sixth or seventh leaf, the undeveloped wood buds below will be converted during the summer and autumn of the same year, or the year after, into fruit buds. Will they, though? They may—some of them—and they may not—in which case a bare part is left on the shoot ever afterwards. One of the weak points in this suggested method of pruning lies in the fact that the space is so large that the sap is unable to force all or any of the dormant wood buds into blossom buds as claimed for it: whereas when the shoots are cut back to within two buds of their base, as in spur pruning, the force of sap is so concentrated that the latent fruit buds at the extreme base of the cut shoot are compelled to develop themselves. Readers

in doubt can find confirmation of this if they will take the trouble to examine the groups of spurs which follow such pruning. They will find many of them there—flower buds comfortably nestling at the base of the cut shoots. Is it quite fair for the Editor to butt in, in a case of this sort, in order to support the critic's case against the criticised before the latter has had an opportunity of replying?—OWEN THOMAS.

[The Editor reiterates that he thinks in practice Mr. Pearson and Mr. Thomas have much the same system of pruning in mind. Mr. Thomas speaks of the "latent fruit buds at the extreme base of the shoots," which it would seem he has not taken into consideration when pruning to two eyes. If, as appears probable, Mr. Thomas means to prune to two *strong* eyes, Mr. Pearson would, no doubt, almost agree with him. If, on the other hand, Mr. Thomas really means to cut to two eyes, most up-to-date fruit growers would consider it an outdated orthodoxy rather than "rank heresy," as Mr. Pearson phrased it.]

THE PYRENEAN SAXIFRAGES

The following notes on the Pyrenean Saxifrages "At Home" should be very helpful to the Alpine grower.

THE Pyrenees are the richest centre in the world for Saxifrages. They are a real "centre of creation" for the family. *Saxifraga longifolia*, which has been grown in our gardens for more than 150 years, is the best known of all. It covers limestone rocks with a south aspect throughout the chain and reaches to the Sierras of Sagra and of Aitana in Spain; but there it is a form approaching *catalaunica* (Boiss), which is rather *S. lingulata* (Bell).

The typical *longifolia* is very popular as a garden plant because of its ease of culture, but it is certainly inferior to *lingulata* of the Maritime Alps. I never saw anything more wonderful than *lingulata* on the precipitous cliffs on the north side of the Alps above Nice. They bear long spikes of flower, some of them 2½ ft. long overhanging the path. The flowers of *lingulata* are pure white with a red stalk, and the leaves narrower and longer than those of *longifolia*. The culture of *lingulata*, although easy, is not so simple as that of *longifolia*, which is, unfortunately, monocarpian. It dies after flowering, which is not the case with its alpine sister. On the Spanish side of the Pyrenees *longifolia* seems to be stronger growing than on the north side. Last year, however, I went there to find seeds of *longifolia*, which at Floraire never can be got pure because of its being cross-pollinated by insects. We found that on both sides of the chain none had flowered or, at least, none gave seeds. It was explained to me that this is often the case and that some years they fail to get fertilised. This year they gave quantities of seed, so that I was very successful.

The group *Euaizoonia* is but poorly represented in the Pyrenees, but the *Dactyloides* species are so numerous that they seem to be the *fond de la végétation* of the whole chain. The most extraordinary of them is the rare *cuneata* (Willd) growing in the cliffs in the neighbourhood of Pamplona on the Spanish side. Boissier introduced it in his wall at Valleyres in 1838, and the plants are still there, having grown undisturbed since that time. They are now very large tufts, very beautiful to see. I saw them in my days of adolescence, and the sight of those splendid

Saxifrages certainly incited me to grow alpiners and to become a gardener.

The type *moschata* (*muscoïdes* of some authors) is such a variable one that the name varies in

together and to study their characters. Of course, some of them (*S. S. aquatica*, *ajugæfolia*, *capitata*, *tenella*, *sedoides*) are fairly fixed types and vary little. All those, however, belonging to *cæspitosa*, *muscoïdes*, *aphylla*, *gemmaifera* and *exarata* are so numerous that it seems impossible to study them well except in cultivation. For that reason I have begun the culture of them all. If any of your readers wish to help me in this direction I should be glad to get into correspondence with them.

S. aquatica sometimes forms in the Pyrenees fields of green foliage covering acres and acres of ground where nothing else can be seen. In ascending the Pic du Midi-de-Bigorre (there are several Pies du Midi) we found a station of it covering quite a *land* (perhaps two and a half acres) of ground. The plant is thick and tall (sometimes 3ft. with the stalks), bearing large pure white flowers. *S. ajugæfolia* is everywhere and covers the interstices of the screes at low and high altitudes. I found it and *Dioscorea pyrenaica* growing together.

On the surface of some rocks we found the rare *S. Clusii*, very curious with its reddish shining pilose leaves, growing at the foot of the cliffs, where we came across, but could not get, *Lilium pyrenaicum*.

We found the very rare *Bartsia spicata* in the Val de L'Hérins above Aste, the village where Tournefort had his seat when he visited the Pyrenees to study its flora. This valley seems to be particularly rich in rare things.

Floraire, Chêne Bourg, Geneva. H. CORREVON.

[All lovers of the mossy Saxifrages will wish M. Correvon success in his attempt to



AMONG THE MOST BEAUTIFUL OF ENCRUSTED SAXIFRAGES—*S. LINGULATA*.

given to it by some botanists. M. Luizet made an extraordinarily interesting study of all these Saxifrages of the *Dactyloides* group, published in the Bulletin of the Société Botanique de France, from 1910 onwards. His work seems to me to be the best on this section. I searched for the types he mentions and found some of them, but not all, as it is slow, hard work. Next year I hope to be more successful and to be able to introduce them to the gardening world. We made a little alpine garden in the Jura in order to grow them all

classify the Pyrenean species. We shall hope some day to publish in THE GARDEN the results of his labours—ED.]

FORTHCOMING EVENTS.

January 17.—Royal Horticultural Society's Meeting.

January 19.—Meeting of the Linnean Society of London at 5 p.m.

CORRESPONDENCE

DUTCH BULB GROWERS INVADE ENGLAND.

CONSIDERABLE interest has been aroused in the bulb-growing district of Lincolnshire by the announcement that the famous Dutch firm of bulb growers, Messrs. de Graaff Brothers, Limited, of Noordwijk, Holland, have purchased some sixty acres of bulb land just outside Spalding. The bulb-growing industry has steadily grown until it is now one of the most important in South Lincolnshire. English bulbs are in every way equal, if not superior, to those grown in Holland, and an increasing acreage is yearly devoted to this crop. The rich, silt soil of Lincolnshire is practically identical with that in the bulb areas of Holland. It is understood that Messrs. de Graaff will adopt the latest Dutch methods of culture on their English bulb farm. Within a week of their purchase of the land huge steam ploughs were at work tearing it up. As the present season is now too far advanced for bulb planting, the land will be cropped first with Potatoes (for which Lincolnshire is famed), bulbs being planted as these are lifted. This is the first occasion on which one of the great Dutch bulb firms has entered into direct competition on the spot with English growers by starting a farm in the very heart of the English bulb district. It is not unlikely that, now the ice is broken, other Dutch firms will follow suit. All varieties of bulbs do well in the Holland Division of Lincolnshire, but Tulips and Narcissi of all sorts are the principal kinds grown.—W. A. JEFFS.

DUTCH V. ENGLISH-GROWN BULBS.

NOTICE "Somers," page 639 of THE GARDEN, expresses his appreciation of the Dutch bulbs ordered direct from Holland. His experience is quite contrary to mine. I ordered from a well known Dutch firm the following bulbs: 50 second size Hyacinths, five varieties, 7s. 6d.; 25 early Tulips 3s.; 120 Darwin Tulips in ten sorts, 12s. 6d.; 50 Darwins, mixed, 5s.; 100 Spanish Iris in ten named varieties, 5s.; 50 *Crocus purpurea grandiflora*, 3s.; 50 *Crocus Maximilian*, 3s., totalling £1 19s. I received good Hyacinths worth 12s. 6d., but the remainder were a very poor, rough lot. The Darwin Tulips to name were all second and third size. Two varieties were Cottage Tulips, one double early, the total value 7s. 6d. The 50 mixed Darwins were 15 first, 15 second, 20 third size, value 2s. 3d.; 25 early-flowering Tulips, 15 second, 10 third size, value 1s. 4d.; 100 Spanish Iris, all planting size, not a flowering bulb among them, value 1s. 3d.; 50 *Crocus Maximilian*, second size; 50 *purpurea grandiflora*, second size, value 3s. It will thus be seen that I received bulbs value 27s. 10d. for 39s. remitted. Many of the bulbs are too small to flower, and are thus of no value to an amateur, although I have allowed something for them in my prices. The values I have allowed are made in comparison with those of a well known firm of English bulb growers, taken from their 1921 catalogue.—J. W., *Brigstock, Wisbech*.

FRUITING OF THE FEJOA

THE enclosed fruits may be of interest. I have had over three dozen fruits on my plant of *Fejoa Sellowiana* this year. The three sent are of varying size. What is the normal size of the fruit in its native country? I also enclose two sprigs of *Rhaphiolepis indica rubra* in full flower. This shrub should, of course, flower in April or May, but it is in flower now and full of buds,

which up to the present have not been injured by the frost.—H. G. HAWKER, *Ivy Bridge, South Devon*.

[The fruits of *Fejoa Sellowiana* are edible; they are used in the same way as the Medlar and Quince for making jam and jelly.—ED.]

NEW YEAR FLOWERS.

IN THE GARDEN for December 31 I notice that you mention Christmas Roses and *Erica darleyensis* as the only flowers that "usher in the year." I should like to tell you of some of the plants and shrubs that were flowering in abundance in my little garden here on New Year's Eve. (1) Large bunches of *Chimonanthus fragrans* on an old tree 12ft. high—the beautiful deep yellow flowers not the grey ones. (2) *Camellias*. I picked a large basketful of these, semi-double. I cannot discover the name; some of the flowers look like *Donkelaari*, but others are streaked with white. It is an old tree against a wall and has hundreds of blossoms every year. (3) *Daphne odora*, grown under a verandah, covered with large blossoms and glossy green leaves. (4) *Lonicera Standishii*, flowering splendidly. (5) *Cyclamen persicum*, flowering well, and also the *C. hederifolium*. (6) Violets in abundance; the large-flowered, long-stalked single ones. (7) *Coronilla glauca*. (8) *Jasminum nudiflorum*. (9) The pink Lenten Roses. (10) But the pride of my garden just now is an *Acacia Baileyana*, about 20ft. high or more, planted in 1917 and moved several times. It is now a mass of feathery yellow sprays, as beautiful as any on the Italian Riviera. None of these plants are protected, except the *Daphnes* now and then during a long frost. I send this little list hoping it may interest some of your readers and perhaps encourage them to grow these winter-flowering plants and shrubs.—CAVENDISH BENTINCK, *Dawlish, S. Devon*.

[*Jasminum nudiflorum* is of course, a regular and welcome winter-flowering plant, but the hybrid Lenten Roses seldom flower so early, at any rate, around London. The *Daphne*, *Lonicera Standishii*, *Camellias* and *Mimosa* make those of us—and we are the vast majority—who have to garden in a bleaker climate envious. The Great Western Railway Company have, after all some justification for comparing South Devon and Cornwall to the Riviera.—ED.]

EARLY FLOWERING OF IRIS UNGUICULARIS.

I HAVE read with great interest this correspondence, and from a small clump in my garden since October 1, 220 flowers have been picked. The clump, which has been left undisturbed for the last eight years, is in very poor sunbaked soil. The only attention ever given to it is in the summer, when any long foliage is pulled out or broken off and all dead grass—for tidiness sake—taken away. *Daphne indica* on a west wall is flowering earlier and better than I have ever seen it.—R. A. MEARES, *Falmouth*.

LATE-FLOWERING ROSES.

RIGHT up to the end of the year Roses have been flowering with wonderful prodigality in South-Western Scotland. In several gardens in this peninsular parish, which has the sea on all sides save one, *Wichuraiana* varieties, such as the floriferous *Dorothy Perkins* and her beautiful white derivatives, are blooming almost as freely (though with somewhat less artistic effectiveness) as they did during the months of August and

September. As late as the second week in December I had marvellously large and effective flowers on such fine varieties as *Corallina*, *Fran Karl Druschki*, *Lady Pirrie*, *Crimson Emblem* and *Bouquet d'Or*, the fairest daughter of the venerable *Gloire de Dijon*. *Campions* and *Primroses* have been blooming quite freely wherever they found protection from the desolating winds.—DAVID R. WILLIAMSON.

HORNBEAM AS A HEDGE PLANT.

IN the interesting article on garden hedges in your issue of the 10th ult., the writer says that it is scarcely surprising that the demand for the Hornbeam for hedges has of late years greatly revived, as its value for old time effect has become more fully recognised. I regret to say that I put in some hundreds of yards of Hornbeam hedge a dozen or so years ago and I would advise no one to repeat the mistake. The Hornbeam appears to me to have no advantages over the Beech and to be in every way inferior. It is never so effective as the Beech, whether in the early spring, when the leaves are breaking, in summer or in autumn. It is like a poor edition of the Beech in form of leaf and in richness of colour; and in the North, at all events, it drops its leaves as early as December, while the Beech continues to bear the far richer coloured leaves practically until the time for its beautiful young green leaves to appear.—J. H.

AN APPEAL FOR THE LITTLE GARDENS OF RHEIMS.

ALTHOUGH the war is really over, the effects of the catastrophe are still appallingly in evidence in the devastated districts of France. All the world has heard of Rheims, and few people were left unmoved by the terrible destruction of its glorious cathedral. Constant bombardment for four years worked terrible havoc among all the buildings of Rheims. Now, little by little, these are being reconstructed, but this generation will not see a complete restoration of the ruined city. The poorer quarters of the city were entirely destroyed, and during the greater part of the war the old people, women and children were sent away to the safe South. That is, those went who did not elect to stay on and face the dangers. These latter sent their children to schools which were carried on in the champagne cellars, and most of them lived in underground shelters. One of the chief citizens who "carried on" in Rheims during the war years told me that he became so used to going about on all fours, to avoid shot and shell, that he ended by forgetting that this was not the normal way for a man to walk. Most of the people had their houses and all their belongings destroyed. This has fallen heavily on the poor, the loss of their little all being irretrievable until Germany is made to pay up. When it was no longer necessary to live in shelters and cellars the people who had remained in Rheims found themselves homeless, and the returned exiles were in like condition. Now, all among the ruins one sees huts made of old planks, pieces of rusty corrugated iron, wooden cases, cube sugar-boxes, sacking, etc., where whole families live, and where, during the bitterly cold weather, many die from exposure. These poor people find work in the fields and vineyards round Rheims, and among the reviving industries of biscuit-making, velvet manufacture, in the reconstruction works and in the champagne cellars. The Municipality of Rheims has gradually put up four villages of huts (north, south, east and west of the city) to house the returning poor. These huts are made of wooden planks roughly put together, through which the cold penetrates in winter and the heat scorches in summer. Two

of the villages are on the sites of old battle-fields and shell-holes ruined houses, masses of barbed wire and war *débris* of all kinds still abound. There is no money to construct roads or to tidy the place up, and under present conditions the inhabitants add to the squalor by throwing all their rubbish out of the doors and windows. The most spacious lodgings have four rooms, and there are generally three lodgings to each hut. Old couples and single people have only one room in which they sleep, cook and often work at basket-making, chair-mending, etc. The greater part of the married people have large families; very few have less than six children. Just opposite the hut where I live with the British District Nurses (working for the Americans) is a family of ten boys and one girl. The youngest is three months old. Five children of this family are dead. This is by no means unique.

All French people are born gardeners, and they live chiefly on vegetables. I have started a little *œuvre* among these villages of huts. The authorities have given permission to the people to cultivate all available space round their dwellings, with the result that this year I hope these dirty, sordid, miserable places will be transmogrified into Garden Cities. The people have taken up the idea very keenly. My aim is to help the people themselves to better their conditions. The gardens will be beneficial in many ways—the vegetables will be an economy, the flowers will bring beauty and consolation, the cultivation of their plot will interest the owners and keep the men at home in their non-working hours, and also be a joy and distraction for the women who have nothing to lighten the grey monotony of their lives. Also the gardens will tidy up the whole village and give an air of prosperity and trimness which are now lacking. Then, too, the ownership of these little fenced-in gardens gives a pleasant sense of proprietorship which everyone enjoys having. The people can be private and have their meals and read in the open in the summer. These *jardnets* will remove the mud and *débris* from their doors. In August prizes will be given for the best gardens, and special prizes for those which have been cultivated by the boys of the family. The Municipality of Rheims has given me about two acres of ground which surrounds the Foyer Féminin (a club for girls and women started by the Americans, but now carried on by the French). This ground has been made into a flower garden and recreation ground for the Foyer Féminin and a vegetable garden which supplies the club with vegetables and grows plants for sale and for giving to the little gardens of the barrack villages. A new plant is a real joy to these poor people, and I am encouraging the true gardener's spirit of exchange among them. One poor widow woman, who lost all three of her sons in the war, finds her only joy and consolation among the flowers of her tiny garden. Her face lights up all over it. I give her a cutting or plant. Another widow, who has an only child, a boy of fourteen, has made quite a wonderful little garden out of the tiny space she was allowed last year. She never bought vegetables all through the summer, and also contrived to have a little border gay with flowers. She has made an arch over her tiny gate, and I am giving her a climbing Rose to cover it. My little *œuvre* is to help and encourage the people, and I want to be able to give seeds and plants to every garden. My great ambition is to have a climbing plant on every lodging (Roses for choice) to hide its intense ugliness. So I am sending out this appeal to ask everyone whom it reaches to send me the ends of their seed packets when they have sown their own gardens, or to give me a few full packets or the

money with which to buy seeds or plants. The Royal Horticultural Society has given me a most generous gift of vegetable seeds, enough to sow all the little gardens and the Mother Garden at the Foyer Féminin. So now all that I need are the flowers which by their beauty will do much to raise these stricken people out of their sordid misery. They will bring hope to the hopeless, consolation to the bereaved, and joy and loveliness to all.

"Hedge thy dwelling round
With the Divine companionship of Flowers."

Gifts should be addressed to Miss Slade, Foyer Féminin, 26, Rue Simon, Rheims, Marne, France.
—VICTORIA SLADE.

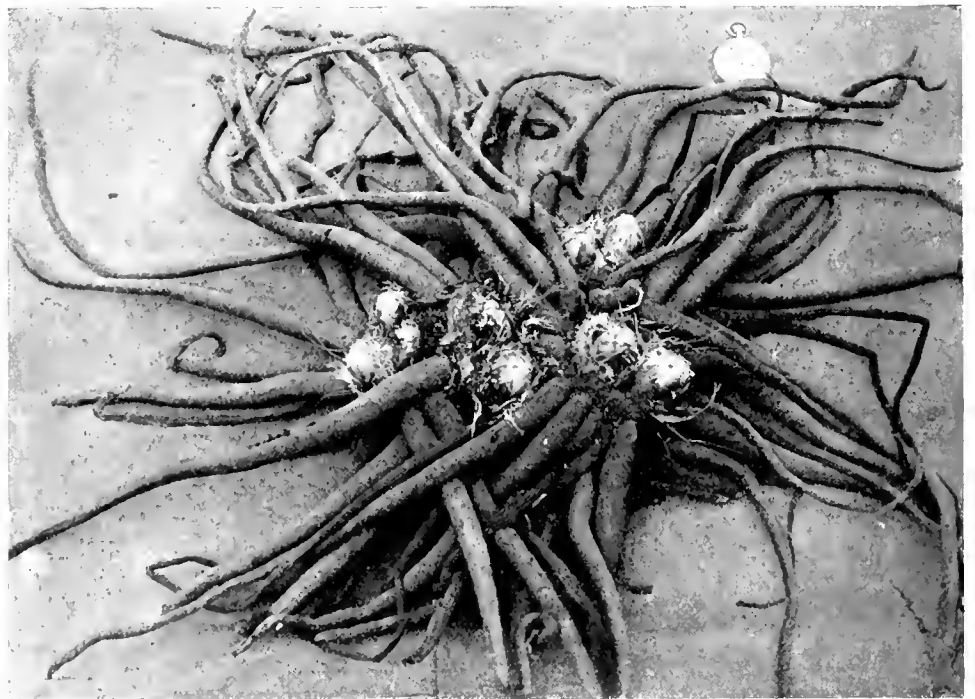
THE MISTLETOE AND ITS HOSTS.

IN the interesting note on *Viscum album* in THE GARDEN of December 24 the writer states that he has seen it on both the Wych and English Elm, and also that it is said to have been found on the Cedar of Lebanon and Larch. In some Pine forests abroad Mistletoe is regarded as a pest, so it is, perhaps, not surprising that it should

Gardens at Oxford. In no other place in the world can Mistletoe be seen growing on such a variety of trees, all within one acre of ground. The seeds appear to have been naturally carried from the Lime trees near the road to the Weeping Willows at the back and to have spread from them to the following: *Pyrus Malus*, *P. aria*, *Cotoneaster Lindleyi*, *Juglans niger*, *Robinia Pseudacacia*, *Crataegus orientalis*, *C. tanacetifolia*, *Æsculus octandra*, *Ostrya carpinifolia* and *Acer monspesulanum*. The Mistletoe appears to be affected by some of its hosts. On the *Ostrya* some fifty plants all exhibited the characteristic golden tinge of green, but the bushes growing on the *Æsculus* and *Crataegus tanacetifolia* were a dark holly-green and bore smaller leaves, and, indeed, appeared to be a different variety, though grown from the same seed as the rest.—H. H. W.

THE ROOTS OF THE STATELY EREMURUS.

THERE are few things in the plant kingdom so weird and curious as the roots of the *Eremurus*. The single crown is like a giant



THE CURIOUS ROOTS OF THE EREMURUS.

have been recorded on such trees as the writer names in this country, though it will not flourish on them. I have never met with it growing on any species of Elm, even where it grows plentifully on Lime trees close to them. On many a journey, particularly in the South-West of England, one can see, without leaving the train, that the Apple tree is the favourite host plant, but in Herts and Essex it grows far more plentifully and easily on the Elm. I have seen it growing to perfection on the Aspen Poplar and also on the Hawthorn. In an Essex cottage garden I once saw it growing well on an old Gooseberry bush. So rarely is Mistletoe to be met with on the Oak that I began to regard its presence there and its Druidic associations as a myth, till the Vicar of Hambleton (who kindly measured with me for THE GARDEN the ancient Yew tree over soft, in girth) revealed one of its rare, oak-hiding places, where I trust it may remain for as many centuries as the famous Yew. My chief object in writing is to record the names of the numerous host trees in the Botanic

starfish. Thick, fleshy, tapering roots are seen radiating from a common centre. With old well established clumps there are occasionally as many as nine or ten crowns to a root, and as each crown is capable of throwing an inflorescence, the promise of bloom is truly wonderful. Much of the interest in these plants, as in many others, lies hidden underground. Verily plant life is full of strange things, and if plants can reason, no doubt they think the same of us. There is a reason for the strange appearance of these roots, as, indeed, there is a reason for everything a plant does if only we think it out. It would naturally be expected that roots should differ in structure according to the various tasks assigned to them. In the case of *Eremurus* the plant sends up robust flower-spikes, as tall as or taller than a man. When we consider the strength of the inflorescence and the length of the spike of this Lilaceous plant, we can realise the great root pressure and amount of nutriment necessary to support the plant. These fleshy roots are specially developed as

structures for reserve material and the absorption of nourishment, while at the same time by their wide expansion they provide the necessary anchorage in the soil. As one might assume from the

shallow roots, the *Eremurus* delights in a moist soil and prefers an abundance of water in the growing and flowering season.—HERBERT COWLEY, *Lunbridge Wells.*

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Seakale.—This is more easily forced now than the earlier batches were. Should a constant supply be required it will be necessary to place some roots into their forcing quarters about every three weeks. It is never advisable to use too much heat in forcing Seakale. The best results are obtained when the crop is forced gently. Preparations should be made now for forcing some of the roots where growing. Place pots or boxes with movable lids over a portion of the bed and cover well over with leaves and strawy manure. Some of the finest Seakale is produced when forced in this manner.

Carrots.—Should a sowing not yet have been made as advised in the calendar for December 17, the present is a good time to make one. Select an early shorthorn variety and use a fine light soil. The seed may be sown in rows or broadcast, but the former affords the better chance of having the soil hoed occasionally to aerate it.

Potatoes in Pots.—For an early supply of new Potatoes to precede those in frames, pots or boxes afford suitable means for growing them. The former should be from oins, to roins in diameter, and boxes should be about that in depth, and dimensions otherwise of convenient size for handling. Let the compost have a liberal amount of well decayed flaky leaf soil in it and see that good drainage is given. The seed selected for this sowing should be nicely sprouted and be of an early variety recommended for this work. Space should be left when filling pots or boxes to give a good top-dressing later on, and plants should be grown in a light airy position when through the soil.

The Hardy Fruit Garden.

Raspberries left untied in the autumn should be attended to now, making sure at the same time that the supports are all good. Where the canes are centred round a stake, loop them all up proportionately and not in a too besom-like manner. The training on wires or similar arrangement calls for even distribution to best advantage. Where a new plantation has been made the method of support should be decided upon and placed in readiness when time permits, so that there shall be no delay when young growths require tying up later. Should these latter plants not have been cut yet, do so now to within about oins. of the ground, and give them, as well as the established plants, a mulching of decayed leaves and manure.

Pruning.—During favourable weather push ahead as rapidly as possible with this work. In dealing with trees on old walls, which may have become defaced and which offer such a hiding place for insect life, it will be of great advantage, where it can be done, for the trees growing against the most offending portions to be entirely liberated, and the wall cleansed with a rough brush and afterwards treated with some insecticide.

The Flower Garden.

Perennial Climbers.—In addition to *Vitis* and Pillar Roses, recently touched upon, there are several other valuable climbers which should among the best we have the *Bignonia*, *Clematis*, receive consideration where such plants are required. *Eccremocarpus*, *Humulus*, *Jasminum*, *Lonicera*, *Polygonum*, *Solanum*, *Tropæolum* and *Wistaria*. While all are hardy, consideration should be given when selecting the positions for the plants, that those known to possess the most robust nature be given the coldest aspect. In view of the permanent character of such climbers the ground should be well prepared for them so that a good start is assured. The different uses to which such plants may be put are several, among which may be mentioned the clothing of pergolas, tripods, dead trees or stumps, and for screen work. Some, more particularly *Clematis*, *Lonicera* and *Tropæolum*, are splendidly adapted for association with other plants. To give one or two examples, *Clematis* entwined among Roses, early flowering *Lonicera* with *Vitis* and *Tropæolum* in conjunction with any plant which gives a spring display and is somewhat bare later in the season, such as the

Almond tree. The *Wistaria* should be so planted that its graceful pendulous flower heads may be shown off to advantage and allowance made where supports are to be erected that they are sufficiently strong to carry the growths as the plant eventually develops into a large-stemmed one.

Plants Under Glass.

Amaryllis.—Some of the strongest and earliest ripened bulbs are throwing up their flower spikes and should be removed to a warm house. The drainage of the plants will have been put in order, and after removing the top crust of old soil, give them a rich top dressing. The bulbs will get sufficient moisture for a little while by occasionally spraying them, but when the growth is more active dryness must be guarded against.

Cyclamen.—Young plants growing in pans or boxes should be potted into 6½ sized pots, using a light compost and not potting too freely. For some time yet the young plants should be kept growing in a warm moist temperature and occasionally fumigated should thrips show.

Mignonette.—This old favourite is always appreciated in the dwelling and flowering house. Autumn sown plants requiring a further pot-on should receive it, using a good loamy sod with some old mortar rubble added. This plant requires firm potting, and should be grown where plenty of light and air reach it. H. TURNER.
(Gardener to the Duke of Northumberland)
Albany Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Hot-Beds.—Take advantage of frosty weather to have a good-sized hot-bed made up, as this will be found of inestimable value to the gardener who is expected to produce forced vegetables during the early spring months. Construct the bed in a sheltered spot facing south, so that full benefit may also be derived from the heat of the sun. The materials should consist of freshly fallen leaves and stable manure. Mix together and leave in bulk for a few days before finally forming to the desired size. Firm treading of the materials is essential as the making of the bed proceeds, and to ensure the heat of the bed lasting for a reasonable period it should be built to a depth of 5ft. The bed may be left to heat up before the frames are placed in position, but, as there is plenty of moisture in the leaves at present, fermentation will speedily take place. A suitable compost should be prepared beforehand and used for sowing or planting in as necessity demands.

Sprouting Early Potatoes.—For early forcing these should be sprouted in shallow boxes. Avoid coddling in any way and aim at producing sturdy growth. The Ashleaf varieties are all suitable for forcing. Sharpe's Victor, May Queen and Duke of York are also good varieties for this purpose.

Lettuces and Radishes.—Sow a pinch of early Lettuce seed in a box so that the subsequent seedlings may be pricked into hot-beds later on. Turnip-rooted Radishes may also be sown thinly among the early Carrots in frames, as these will be ready to pull before the young Carrots require the extra space.

Plants Under Glass.

Chrysanthemum Cuttings.—The bulk of the bush varieties will now have produced "cuttings" freely, so no time should be lost in having the necessary quantity inserted. Boxes are most convenient where large quantities have to be struck. Use a fine mixture of loam and leaf-mould, with a liberal quantity of sharp sand. Choose firm, stocky growths that are breaking away from the base of the stool.

Forcing Plants.—Further batches of Azaleas, Rhododendrons and shrubby *Spiræas* should be placed in heat for succession. Most of these plants will be found to force more readily now.

Begonia Gloire de Lorraine.—Batches of these which have been at their best during the Christmas period should now be cut over and placed in genial

warmth so that they may be encouraged to produce strong "cuttings" for early work. Keep the plants on the dry side for a time, giving the stools a spray overhead occasionally.

Cytisus fragrans.—Large specimens of this sweetly perfumed plant are often grown in comparatively small-sized pots, so should now be assisted with frequent waterings of liquid manure. Being a cool greenhouse plant, this *Cytisus* resents any attempt at early forcing, as when subjected to much heat at this time it rarely flowers well.

Calceolaria Clibranii should now be taken in hand and repotted. To obtain large specimen plants those that flowered during the late season in 6in. or 7in. pots should now be placed in pots of from 10ins. to 12ins. They revel in a mixture of good fibrous loam and leaf-mould with a sprinkling of old lime rubble added.

Hydrangea Hortensis.—Where these are required in flower early in the season a few plants showing well developed buds may be placed in a warm pit. When the plants are freely growing occasional doses of weak soot-water may be given them, varied at times with liquid manure.

The Flower Garden.

Preparing Flower-Beds.—Where beds or borders are not occupied with spring-flowering plants opportunity should be taken to have them suitably manured and dug over. Use thoroughly decayed manure for this purpose, as many bedding plants produce over-luxuriant foliage with corresponding scarcity of flower when too generously treated. Edge the beds neatly as the work proceeds. JAMES McGRAN.

(Gardener to Sir Henry H. Bouldsworth, Bart.)
Loatham, Kilmarnock.

CONSERVATORY AND GREENHOUSE.

Greenhouse Cleaning.—Cleanliness is one of the chief essentials in successful gardening, and is of prime importance in indoor operations. If not already done, no time should be lost in cleaning the interior of plant houses generally, for very soon there will be little time to spare for such work. The roof glass should be washed down as well as all wall surfaces, which should afterwards be sprayed with carbolic acid, using 4oz to every 3 gallons of water. All wall surfaces should then be lime-washed, adding half a pound of flowers of sulphur to every 3 gallons of limewash. The best fixing medium for limewash is skim-milk; linseed oil is also used. Size is often made use of, but it is no good for the purpose, as the lime soon destroys it. All propagating cases and frames should be treated in the same way, replacing the old plunging material, if necessary, with fresh. Stages and benches should also receive attention, renewing any standing material which is old and sour. This is very important, as plants never do well when standing on a dirty and sour medium. Where pea gravel is used on benches, it should be washed; other material, such as sifted ashes or coke breeze, should be discarded and replaced with fresh. The benches when cleaned should be watered with the carbolic acid solution as advised for the walls. There are, of course, plenty of good proprietary washes if one prefers to use them. A disinfectant of some sort is essential, especially where collections are affected by that all too common pest, cyclworm. All the foregoing labour may to many seem unnecessary, but it is only by strict attention to such details that success is assured in plant growing.

Seed Lists.—The opening weeks of the New Year usually bring a shoal of seed catalogues. Orders should be placed early, especially for such kinds as should be sown in January or February. Always order from a reliable firm, even if their seeds cost a little more. It usually proves economical in the end. It has to be taken into account that the work of growing is just the same, so that it is well to have every possible guarantee that the strains of seed purchased are of the best. From the great variety offered it is rather difficult for the inexperienced to make a suitable choice. It is, in any case, best to trust to known varieties if they are wanted for a definite time or purpose, making it a rule, however, every year to try something new in addition.

Potting Soils.—It is important at this time that loam, leaf-soil, peat and sand should be placed under cover, so that they may be in suitable condition for potting and seed sowing.

Lime.—The use of lime is too often neglected in potting soils, although its value is generally recognised in outdoor gardening. Its use is of prime importance in potting soils, which is usually obtained from old pasture or park lands, which

too often have been neglected as regards regular liming.

Plants for Forcing.—Continue to introduce plants into a heated house for forcing. Care is, however, necessary, for many plants are spoiled each year by too sudden a change of temperature. Shrubby plants from outdoors or bulbs from cold frames should be gradually accustomed to a high temperature. In the case of bulbs it is also very important that they be well rooted. This implies that they were potted in good time last autumn. Lilies of the Valley respond quickly to a temperature of 80° to 85°, especially if they have been stood in the open for some weeks with the crowns well exposed to the weather. Needless to say, plants grown in so high a temperature have not got the lasting qualities of plants grown in cooler quarters.

Chrysanthemums.—Where exhibition blooms are grown a start is usually made with propagation during December. Where grown purely for decorative purposes, cuttings may be inserted from now onwards until the end of March, or even during April. Propagation in March and April is to produce plants for growing in small pots to furnish the stages in the conservatory. They are also excellent for use in the dwelling-house, and in this form are worthy of more general cultivation. Later on I hope to enter more fully into the details of their cultivation. In taking cuttings, firm, medium-sized shoots some 3 ins. in length are best; cuttings from the stem should, where possible, be avoided. Sometimes there is very little choice, as many fine new varieties are

notoriously bad stock-makers, a good example being that beautiful single variety, Caterham Bronze. With such varieties one must take what one can get. Better plants of some varieties are obtained by fresh cuttings taken later on from the young rooted plants. In rooting cuttings for exhibition work it is usual to insert the cuttings singly in thumb pots. For ordinary cultivation this is not necessary; they may be dibbled fairly closely into pots or into boxes where a quantity of one sort is required. They root readily in a shallow cold frame or under hand-lights stood on a bench in a cold house. So treated they will take a little longer to root, but the resulting plants are generally stronger and sturdier than those subjected to heat. Care should be taken that they are not kept too damp.

Carnations.—Continue to keep the Malmaison varieties on the dry side. Do not on any account get the foliage wet; allow just enough water at the root during winter to keep them from shrivelling, and no moisture on the foliage. This is the only sure preventive and cure for rust. Spraying with supposed preventives is worse than useless; it just provides the needed moisture for the disease to start and propagate itself. Rooted cuttings of Perpetual Flowering varieties should be potted off as they require it. Continue to insert cuttings as they become available. Remember that lime in some form in the potting compost is essential for the well-being of all Carnations.

J. COULTS.

Royal Botanic Gardens, Kew.

THE FIRST KNOWN DAHLIAS

The writer endeavours to clear up the mystery surrounding the introduction of the Dahlia to Britain.

AMONG the interesting discoveries that I have made during some recent enquiries into the history of the Dahlia, there is one, in particular, which deserves the attention of those readers of THE GARDEN who are concerned with that subject. There has been so much taken for granted and apparently so little of the historical matter submitted to the test of critical examination by the majority of writers on this flower that the few notes which follow may be helpful to anyone who may henceforth desire to pursue a course of independent investigation.

Every student of floricultural history knows that it is generally stated that the first introduction of the Dahlia into England was by the Marchioness of Bute in 1789. But nobody ever tells us what was the name or names of the varieties so introduced. In fact, some of the writers lead us to suppose that there was only one. My researches prove beyond question that the date given is an initial blunder and one that has been permitted to go unchallenged for a hundred years or so, and that the real date should be put at least nine years later. My reasons for this have already been published.

The Bute introductions were undoubtedly lost through want of knowledge as to the culture necessary or from some other cause. They were followed by the second introduction, which was due to Lady Holland in 1804. The discovery alluded to was made recently at the Natural History Museum, when I was there on other work connected with the Dahlia. Dr. Rendle very kindly suggested that as he had under his care some old dried specimens of Dahlias he would be pleased for me to send them in case they might be of any service. Upon my assenting, they were brought forth, and it is a most remarkable circumstance that nobody that has ever taken any interest in the historical aspects of the Dahlia should have seen these specimens, otherwise they would certainly have been mentioned. It may be, of course, that the existence of these interesting specimens

was unknown to former writers as it was to me—it may be that for the purpose of comparison and identification the various coloured figures in the botanical and horticultural publications available were deemed sufficient. But whatever the reason, it is certain that these old dried specimens of Dahlias throw a new light upon Dahlia history which has hitherto been unknown.

Out of the total number there are eight which deserve our special consideration, and three of these are of the utmost historic value in helping us to come to a definite conclusion as to the names of those flowers which the Marchioness of Bute first introduced into this country. The reader who has read my article on the Evolution of the Show Dahlia in the National Dahlia Society's Year Book for 1915 will remember that the Abbé Cavanilles of Madrid named the Dahlias he received from Mexico, *D. pinnata*, *D. rosea*, and *D. coccinea*, each of which he figured and described in his "Icones."

Now the first of these dried specimens is intensely interesting and instructive for two reasons—firstly, because of the inscription written in ink upon the shell on which the flower is mounted; secondly, because the specimen itself shows clearly, as Cavanilles' figure does, that it was a semi-double flower. André Thouin's figure of the same flower in the *Annales du Muséum* also demonstrates this peculiarity, which is a remarkable one, considering that under English and German cultivation the blooms came absolutely single and are figured as such by almost every other authority since.

This is *D. pinnata*, otherwise known as *purpurea*, the *Georgia variabilis purpurea* of Willdenow's "Hortus Berolinensis," tab. xciii. The following is the inscription: "*Dahlia pinnata*, Cav. ic., p. 56 and 80, sent under the name of *Dahlia cœruleo-rubens*, C. G. Ortega (Lady Bute)." This colour description is in Cavanilles' own wording as the reader will see in his Obs. in the text to tab. 266.

The next of these specimens is marked "C. G. Ortega (Lady Bute) *Dahlia rosea*, Cav. ic., p.

33-1,265." It is quite a single flower, not so large in its dried condition as Cavanilles' figure of that variety.

The third one is a much larger specimen than Cavanilles' figure of it. It bears the inscription: "C. G. Ortega (Lady Bute) *Dahlia coccinea*, Cav. p. 3."

They are all undated, but there seems to be no room for doubt that, irrespective of any question as to the date of introduction by Lady Bute, these dried specimens were the three original varieties that Cavanilles received from Mexico and not seminal varieties bearing other names.

By the time Lady Holland had secured seeds and had grown them at Holland House for a year or two the original three had increased in number, and the remaining specimens in the collection at the Natural History Museum afford ample proof of the inconstancy of *D. pinnata* in coming semi-double. We could otherwise have been quite convinced of this by reference to the coloured figures of it in the various publications of the period.

Taking the fourth specimen, we find it marked "Lord Holland's Garden, *Dahlia pinnata-purpurea* N. 1." This flower is a large, flat-petalled single. The next one is also marked "*Dahlia pinnata-purpurea* No. 2, Lord Holland's Garden," and is a flower of great size, a single with broad florets about 5 inches in diameter. The following note appears at the bottom of the sheet: "This plant came from seeds in 1805. The colour is stronger and dries much better. 8½ feet high to the first top flower."

We get another example in the specimen marked "*Dahlia purpurea* N. 3, Lord Holland's garden." The centre is gone and the flower is smaller than the preceding one, but it is still as single as a flower can be. The inscription informs us that "This plant bears flowers of a deeper colour than No. 2, being a medium between 1, 2, 3 and 4, which is bipinnata. The flowers are double (?), but only 8 leaves were perfect." It is interesting to notice that although these old specimens are brown with age there is in each case the original shade of colour still more or less faintly visible.

Now although the majority of these old single Dahlias had only eight broad radial florets, some at times had more. That can be ascertained not only by reference to the published coloured figures, but by the specimens themselves. One of them is a case in point. It is inscribed: "*Dahlia rosea* seemly not, but only a variety," and at the bottom: "Lord Holland's Garden." In this there are nine florets of the ray.

Of the remaining specimens there is one, also a single, with eight florets still faintly showing the original yellow colour, marked "Lord Holland's Garden, *Dahlia coccinea*," and rather the worse for age. When this was figured in the *Botanical Magazine*, tab. 762, it had nine. Cavanilles' figure also depicts the flower with nine.

The last to be noticed is inscribed: "*Dahlia crocata*, Lord Holland's Garden." Both *coccinea* and *crocata* are always shown as singles, but they were smaller forms than *pinnata* and *rosea*, and more variable in the number of their radial florets, *D. crocata* in McDonald's Dictionary being shown with nine, while in the "British Flower Garden," pl. 282, it will be seen to have ten.

Such are the essential points of interest that occur to the mind of anyone examining the specimens. It must be admitted that they throw a flood of light upon the subject which, up to now, has never been suspected. That they should have remained hidden away all these years and never yet have been brought to the notice of our Dahlia historians is one of those inexplicable mysteries with which the student of floricultural history is occasionally confronted. C. FARMAN PAYNE.

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A CORRESPONDENT this week calls attention to the difficulty of applying Mendel's Law to, for example, the Carnation. It is probably not wide of the mark to say that there are few subjects about which the average gardener knows less than about Mendel's Law. There are even to-day men whose business depends very largely on the raising of new plants who do not hesitate to describe Mendelism as "all tosh." There is no use in mincing words. There is much that is out of date, much that is reactionary in the horticultural trade. This obviously does not apply to the established firms who are at the "top of the tree," nor to some of the younger and wonderfully progressive firms who are rapidly climbing to that exalted position. These, however, represent but a small part of the nursery and seed trades. There are far too many who are content to dismiss Mendelism as "tosh," scientific research as a waste of money, and packing as of no importance. The methods of their grandfathers are good enough for them. Many of them carry on a precarious existence. In almost any other profession they would long since have been out of business.

The Explanation would seem to be in the fact that horticulture is, generally speaking, a badly remunerated profession. There are to-day many skilled head-gardeners with a very wide range of knowledge indeed who are drawing a wage lower than many dustmen. A similar standard of remuneration obtains in commercial horticulture, and so small is, even then, the margin of profit that it is evident that higher wages must depend upon the introduction and utilisation of labour-saving and waste-eliminating devices. To introduce such devices and to utilise to their greatest extent all helpful knowledge as exemplified, for instance, by the Mendelian Law, it is necessary to have directing intelligences of no mean order dowered with foresight and gifted with resolution, or with what the "man in the street" calls "push and go." Here is, then, a vicious circle with low wages explaining incompetence and incompetence making inevitable low wages.

Truth is Great.—To come back to our "text," the Mendelian Law, from which insensibly we had drifted away, one of the commonest arguments brought against the application of Mendelian theory is that it is not true or that it is true only of certain genera of plants and animals. That it is not applicable to Carnations, for instance. The law has been practically applied to such varied genera as Pisum, Primula and Cucurbita. It would surely be worth while closely to study its application to genera in which the component factors would appear to be more numerous and intricate. It is quite probable, nay! as far as certainty can be attained, it is certain that Mendel's Law as now understood is not a final statement of the facts relating to interbreeding. Were that, however, to be held a valid reason for neglecting newly acquired knowledge, however inexact, however imperfect, there would be an end at once to human progress. The greatest English scientist who has ever lived is universally admitted to have been Sir Isaac Newton. His discoveries were epoch-making. They might well be described as great new truths, yet when all is said, they were but approximations to exact truths; perhaps it will ultimately turn out not even that! None the less, much useful work, both practical and theoretical, has been built upon them. The same

might be said of the Atomic Theory, for instance, which, though now admitted to be inaccurate, has yet been, and still is, the very foundation stone of modern chemistry. Darwin's Theory of Evolution has done excellent service and been of much practical use to the thinkers of the world, though in some respects it is now considered anything but an accurate presentation of facts. It is very doubtful if man will ever attain—if he is ever intended to attain—to abstract truth upon even the simplest matter. What can with reasonable confidence be set down is that, century by century, decade by decade, we reach a little nearer to that great ideal. *Magna est veritas et prevalebit* some day! In the meantime let us put forth our best endeavours with the tools we have, imperfect though they be!

Good Tools.—If the foregoing paragraphs read something like a sermon, let it be forgiven! The Editor does not often wander into metaphysics. The present is a season when it is well to overhaul one's garden tools and take steps to have "done up" or replaced those out of repair. Lawn-mowers should be repaired and adjusted, picks and edged tools be re-sharpened, and some of the latest labour-saving devices be added as the particular requirements of the garden dictate and the domestic exchequer permit. It is a never failing source of

wonderment that tools so absolutely unsuitable for the purpose for which they are intended should continue to be made—unsuitable oft-times not only on account of bad materials, but because of radically bad design. This note was really prompted by the fact that the Editor has recently tried a trowel called the "Perfect," which is supplied only by Messrs. Carling, Gill and Carling, Limited, of Guildford and Godalming. It lives up quite well to its name. In a world where naught is perfect this excellent tool reaches as near perfection as the most critical could wish. The blade is so shaped as not to retain the earth; it is adequately, but not over-ranked. The steel is the best and the "bright" finish excellent. Economy on tools is surely the falsest of all economies imaginable, but it is one often made!



IRIS UNGUIULARIS WHICH HAS FLOWERED AND IS FLOWERING WONDERFULLY WELL THIS SEASON.

DO HEATHS REQUIRE PEAT?

The writer says not. Some of the best species and varieties, with suggestions for their culture.

ARATHER sharp slope of shaley loam, apt to suffer in summer from drought, does not perhaps suggest ideal conditions for many Heaths, but we nevertheless put in a goodly number of varieties some years ago, and, rather than reaping any regrets, this plantation has proved to be among the most satisfactory undertakings yet attempted.

The good qualities of Heaths "need no bush," but there is one which in these days of expensive labour stands out above all others. I refer to the fact that once your Heaths are established they never need any attention at any season. Even on a rough, open woodland slope, such as ours, they eventually overcome other herbage, which means the saving of a deal of work and an avoidance of that use of the brushing-hook which, however necessary it may often be, is not always an improvement in a semi-wild garden.

The first of the winter Heaths to flower here is *Erica mediterranea hybrida*, one of the most useful and more closely appertaining to the typical *mediterranea* than to its other parent, *E. carnea*. This is practically an all-winter bloomer, but just when it is coming into its best the two others mentioned will be getting nicely coloured; that is it precedes *mediterranea* whilst just about the same time the moss-green, plumose foliage of *E. lusitanica* will be hung with its countless little bells of the peculiar ashen whiteness and texture of burnt

paper. Of *E. carnea* there are many forms, of which the white one is the least valuable. Among the rest, the most pleasing is, I think, one of a clear rosy carmine, pinker than the type (often listed as "rosea") and a very lovely thing, especially when grown on a level with the eye. The white variety of *E. mediterranea* is first-rate, a pure white and a generous bloomer, but the best of the group is undoubtedly *E. m. superba*. This, though later in flowering, is bigger, rosier and better in every way than the type, which is saying a good deal.

Before the last of the above are out of bloom those of the *E. Tetralix* and *cinerea* set are opening their flowers. The most delightful of the former are the creamy white, glaucous-hued *mollis*, and the delicately beautiful *alba*. Another good one is *E. Mackaii*, whose large round bells are of a charming low-toned pink, and not less attractive is *E. Watsoni*, a *cineraria* x *tetralix* hybrid which inherits some of the best qualities of both parents. There is a double form of *E. Mackaii* and *E. T. Lawsoniana*, with flowers of a wild rose hue, is very lovely. All the members of the *E. Tetralix* clan appear to need rather more moisture than most others, and it is evident, if lessons afforded by the wild type be of any guide, that peat is their chosen medium.

E. cinerea is one of the best drought resisters with us, and quite the most effective variety for wide planting is *rosea*. This, as its name implies, has less blue in it than the type, yet it is a rich and

decided colour and one that is very striking in the mass. It is one of the first of the summer bloomers to open and lasts a long while in flower. The white variety of *cinerea* is also worth a place, this, as often happens in albinos, having foliage of a deeper green; and another splendid, though much dwarfier form is that known as *E. cinerea coccinea*, whose flowers are a fine, bold crimson. This last makes an excellent foreground or edging plant, and we have it fringing the brink of an old retaining wall that forms a part of our Heath bank.

Erica ciliaris, in some respects the most beautiful of all the native Heathers, is quite content with this sharply drained loam. The very large flowers in both varieties, the rose-purple and the white, are rendered even the more attractive and distinct by reason of the delicate tint of emerald which permeates the foliage. Since this species has rather a trailing habit it needs careful placing so as to prevent its being overgrown by others. *E. Maweana*, said to be a form of the above, with flowers more nearly approaching crimson, is one of the best of the genus, and many who have failed with the type have succeeded with this one. These, like those of the preceding group, are all summer bloomers and flower well into autumn.

Out of the many forms of *E. (Calluna) vulgaris* we have "concentrated" on some half-a-dozen. These include *E. vulgaris fl. pl.*, which excels over the type no less effectually than Double Gorse



"STOLEN MOORLAND." AN EFFECTIVE HEATH GARDEN.

does over the common form. *E. v. Alporti*, with very deep green foliage, is the finest crimson and *Hammondi* the best of the tall whites, both strong growers. *E. alba Serlei* is another white variety, rather more dwarf, and *tenuis*, a dwarf crimson-

is one that makes an admirable ornamental hedge. As a matter of fact, *E. stricta* is one of the favourites here, not only because its cool, shell-pink flowers are so welcome during the later days of autumn, but because the

australis must be afforded a space where, in the climate allows. Though not tender, it is liable to be cut back by severe frost and should therefore be given a sheltered site in all but our milder counties. For a good many years it has done well here, growing to about 4ft. The very large, long-shaped flowers, of an exceedingly vivid rose, are borne in terminal clusters (usually four or eight blooms together), and these distinguish this Heath from any other. Yet another of the genus which stands by itself is the loose-habited *E. Stuarti*, with white blossoms tipped with carmine. This, again, could not be mistaken, once its flowers have been seen. It is said to be a natural hybrid discovered in Ireland.

All these Heaths and others are flourishing, as I have said, in a free loam on a south-westerly bank. They have never had any peat, but some of the more precious were given a little leaf mould when planting. One of the prime factors which made for success in putting the plants in has undoubtedly been deep planting. We make the holes almost laterally, or at right angles to the lie of the land, they are deep enough to allow the plants to be sunk well up to the foliage (usually deeper than they were), the soil is firmed in with the handle of the spade and that is all. For most kinds we find spring the best season for planting, but the winter-flowering sorts are put in as soon as the autumn rains have soaked the ground. Should any of the Heaths

appear likely to suffer from drought during their first summer they are covered with light hedge-brushings, bracken or other green herbage, but they seldom need this and we rarely lose a plant.

N. Wales.

A. T. JOHNSON.



ERICA CARNEA AND ITS VARIETIES TOLERATE LIME IN THE SOIL, THEREIN DIFFERING FROM OTHER SPECIES.

scarlet. With these and, for the sake of their foliage—golden and bronze respectively—*E. v. aurea* and *cuprea*, one whose space is limited may close the vulgar list, unless he is tempted to add "just one more," viz., the dainty and refined *gracilis* in white. But it is a list so rich in good things that if I were doomed to confine my attention to one group of Heaths I should unhesitatingly select these garden forms of our common Scotch Heather.

As with the foregoing, so with *E. vagans*. The big, sprawling, handsome Cornish Heath is presented in many forms, ranging from a poor, washy, creamy pink to the deep and imposing crimson-purple of *rubra* or *grandiflora*. *E. vagans* is a Heath for wide spaces, a robust grower and one easily satisfied. Though one of the last to bloom it will "carry-on" throughout August right into autumn and even on our dry, sun-beaten slopes the drought has to be very severe before this stalwart shows signs of surrender. One reason why *E. vagans* just escapes being as attractive as one imagines it ought to be is that the flowers of the spike die off in rings of rust as they open towards the tip. *E. multiflora* is of the same type as *vagans*, but it is more compact and more orderly in habit. The flower racemes are shorter and blunter and of a cheerful rosy-purple.

E. stricta, the hardy, erect, fuzzy-looking Corsican Heath, which will go up to 4ft. or more, is so distinct that it is not considered as showy as many others it is always effective by way of affording contrast, and it

fresh, lively green of its foliage, tipped with the rusty-red of the withered flowers, are among the most delightful objects of our winter gardens.

Rarest and most beautiful of all these, *E.*



AN EFFECTIVE MASSING OF VARIETIES OF LING (CALLUNA VULGARIS).

HERBACEOUS BORDERS?

A protest against a misleading term and notes on the advantages of the raised border.

HERBACEOUS? Perhaps, for the term seems to cover a multitude of sins, albeit invariably proving safe refuge to a good old friend of youthful days, long since gone where good old gardeners go. He was only to be momentarily nonplussed over some or other unrecognised hardy plant, and went to comfortably dispose of it as "one o' thim yarbaceous things." They totted up a big list, which, after many days, appears to have increased and further grown out and away beyond the orthodox interpretation of plants with annual tops and everlasting bottoms. Puzzled judges at a flower show, on one occasion at least, condemned the word as a trap for the unwary and a stumbling block to trip up both themselves and exhibitors. There was trouble over it then, and ever and anon there is trouble over it now, for, as then remarked, there are popular plants on the border line which leave openings for dispute. If the word were eliminated from our show schedules and perennial hardy plants, other than shrubs, substituted, such *contretemps* could scarcely arise.

The hardy flower border is, or should be, a joy for twelve months of the year, much in the way that my Lord Bacon (he of Shakespearean times), referring to the larger scale, said, "I doe take it in the Royall Ordering of Gardens there ought to be gardens for all the moneths of the yeare, in which, severally, Things in Beautie may then be in season." It is not uncommon nowadays to find borders to which the Elizabethan poet-gardener's notion may not inaptly apply, but not less common to see hardy flower borders suggesting how much they might at small expense be improved both in their formation and in their planting. As to formation, at no time of the year does the low-level, flat border give one a more uncomfortable feeling than during dull December, when it lies cold, stagnant and wet. There are many pretty well approaching that

condition, but few lifted bodily and boldly up as one under notice which is a full foot above the walk level. This has a retaining edging of rockery



A RAISED "HERBACEOUS" BORDER WITH ROCKERY EDGING CAN BE VERY EFFECTIVE.

stones, in this case got, for the carrying, from a local quarry at hand.

Quite recently in the very depths of winter there came from that border a good measure of that colour which Ruskin tells us is meant for the perpetual comfort and delight of the human heart. It came from bold tufts of *Iris stylosa*, both in its blue and white forms, from Christmas Roses, and from the brickground of low brick wall, from which *Chimonanthus fragrans* and *Lonicera fragrantissima*, the latter in a delightfully unkempt, wilful tangle, diffused their perfume on every beam of pale wintry sunshine. It was but recently, too, a *Ceanothus* added its heavenly blue, of which the Earl of Moira said, "This beautifull shrub thrives better in the open ground than in the house and is covered with flowers from July to December," and which he recorded in his copy of Hanbury's Gardening published in 1771. The border in question was remade during the dull season some twelve-month since, and seen now all is well established, one can say in garrulous old Pepys' words, "the which did please me most mightily." Herein is a combination of "yarbaceous" flowers with an alpine flora as an edging among the stones they love. A little later it will be an incomparable framing to a satisfying picture.

And more, for the lady who loves her garden, and, in her gardener's parlance, "loves to be pottering among the outside plants," says the working advantages over the all but flat and sometimes actually sunken border, apart from facilities afforded for inspection by visitors, and enhanced appearance of plants brought nearer to the eye, are so good that she contemplates the re-formation of some Rose beds on similar lines. That may be, or it may not be, for at the moment there is some opposition, rather felt than expressed, from that

man of the spade. Probably he thinks "the Missus" is mad; anyway, judging by pleasing results obtained in the lifting up of the hardy flower border to the height of a good foot above the walk level, there is method in the madness, and the conversion of ugly mounds far more than a foot high in the centre, falling away to the grass level, may too have as happy an ending, but *nous verrons*.

Dublin.

K.

CURIOUS PLANTS

Their fascination and some of their peculiarities.

THE fascination of the curious, rather than the beautiful, has a strong hold on many people, somewhat in the same way as in much modern art there is a quality that both attracts and repels. In one's childhood one did not see the beauty of *Antirrhinums*, but rather the fantastical likeness to an animal whose mouth would open and shut—they all had that charm, the colour did not matter. *Delytra spectabilis* was another nursery favourite with its similitude to a delightful fairy coach drawn by harnessed doves.

Later years bring an interest in legendary lore, or the medicinal uses of many of the garden favourites that possess qualities recognised or repudiated by the British Pharmaceutical Society. There are history and romance enough in the derivation of the names of many of our plants to carry the mind away to the far countries from which they were first obtained. Where and whence came the modest little plant bearing on each trefoil leaf a blood-stained spot? *Medicago Echinus*, or Calvary Clover, that growing beneath the Cross was stained with the blood of the Saviour, and carried the mark, so legend says, throughout the centuries.

Plants that contract on touch are many, and many, indeed, are the flowers that close their blossom when the sun goes in—to witness, the common weed, the little red *Pimpernel*, *Anagallis arvensis*; while the ordinary white Clover folds its leaves at sundown. But there are more plants that respond to the varying natural phenomena and cannot be classed as curious, but rather interesting.

Quite apart is the remarkable perennial, *Dic-tamnus Fraxinella*. Numerous people consider, when they have little or no knowledge of its character, that the name—the Burning Bush—applies to its colour; but this is very wide of the mark. The leaves are of a fresh, subdued green, the whole plant, both leaf and flower, low toned and unremarkable, scarcely sufficiently beautiful to include in a border but for the foil it makes to other plants. Its unusual aromatic scent is certainly an attraction, but unexplained appears to be the fact that in full sunlight, when the blossom is expanded, a lighted match placed within a few inches of the plant will ignite a flash of flame that flickers over the blossom, doing apparently no harm, but liberating a still more powerful scent. Probably there is some chemical cause for this little known fact; but for most people the interest of the unexplained is sufficient to earn it a place among plants that are beautiful and sufficiently understood to raise no question.

Adaptation to surroundings appears to be the reason *Drosera rotundifolia* is carnivorous. This, our native round-leaved Sundew, is only to be found on poor, boggy soil, where it has little to sustain life, and, therefore, nature has adapted itself and given it means of obtaining insect food. The leaves, covered with a honey-like substance, attract the unwary and are the death trap of many



THE GRANDEUR AND DISTINCTION OF EREMURUS HIMALAICUS.

diminutive insects. This tiny plant cannot compare with the Ceylon Fly-catcher, for instance, which is a quick-growing climbing plant whose curiously marked blossom is as much as 8 ins. or more across. Into its pouch-like throat insects

are attracted by a powerful smell, not unlike bad meat, and once they have passed into the centre of the flower they are hopelessly imprisoned, a network of fine hairs preventing their ever regaining freedom. M. B.

little attention with the pruning scissors. Many good judges consider the very different *S. Lindleyana* the most beautiful of all. It certainly is, when covered with its fluffy blossom, remarkably effective. Unfortunately it does not long remain at its best and its beauty is mainly on the plant. When cut, its feathery clusters compare unfavourably with the pearl-white sprays of *prunifolia*. Beautiful in a similar way, but less handsome than *Lindleyana*, is *S. discolor*, which flourishes in moderately dry soil where *S. Lindleyana* would hardly be a success. *S. arguta*, with arching sprays of white flowers produced before the leaves unfold, is another excellent kind.

So far we have been considering species suitable for the shrubbery, wild garden or herbaceous border, but there are several species which are admirably fitted for the rock garden. Such are the prostrate *S. decumbens*, which smothers itself in June with clusters of white blossoms. A native

A SELECTION OF SPIRÆAS

Differing enormously in appearance and habit of growth, some being shrubby and others herbaceous, the Spiræas and nearly related Astilbes are invaluable in gardens where the soil is naturally damp.

AMONG the herbaceous Spiræas, using the word loosely to include the Astilbes, the newer pink forms which have resulted from crossing the tall purple Astilbe *Davidii* with *A. japonica* and Spiræa *astilboides* have lately claimed much attention. They are almost all beautiful and easy plants for a moist, cool border, or for forcing under glass, but it is to be feared that they have in our gardens largely ousted plants such as *S. palmata* or *S. Aruncus*, which, as garden plants, have far more merit. In moist, half-shady ground, by poolside or in the wild garden, *S. palmata* grows with almost sub-tropical grandeur, while the crowded heads of rich carmine-rose form a spectacle not soon forgotten. To see this plant in a dry, rather sun-parched border, as one sometimes does, its leaves small and wilting, the growth insignificant and the flower-heads discoloured, is, to a gardener, one of the saddest sights imaginable.

Spiræa Aruncus is one of the stateliest and most accommodating herbaceous plants we have. It will furnish admirably places on the north side of buildings where few things will grow. It will luxuriate, when once established, among shrubs in a mixed shrubbery where it is a matter for wonderment how it obtains its moisture. It is quite at home in a light soil, provided it is afforded good cultivation, yet it will grow and flourish in absolute brick-earth. It is equally tolerant of sun and shade. It has a majesty of growth which few herbaceous plants can rival. Of very few plants can as much be said, yet there are many gardens to-day in which this beautiful plant cannot be found. One wonders why. The cut-leaved form, *S. A. Kneiffi*, is quite useful and beautiful, but it lacks the real grandeur of the typical plant.

For open spaces in the wild garden or bog garden the large growing *S. kamtschatica*, so reminiscent of our native Meadowsweet (*Spiræa Ulmaria*), is exceedingly useful. Often listed as *S. gigantea*, it has a form called elegans with pale pink flowers. Both these attain, under suitable conditions, a height of 6 ft. or more.

Spiræa (Astilbe) japonica and *S. astilboides* and their varieties are largely grown for forcing under glass, but they are excellent foreground plants for massing in a damp corner of the wild garden.

Why is it, one wonders, that while many gardeners with naturally damp soil expend much money and energy in their efforts to drain it, others with bone-dry soil dissipate, if possible, more energy and wealth in making bog and water gardens? It would seem to show the essential contrariness of human nature, but perhaps it would be more charitable to suppose that it were merely a sense of discipline which sets each and all of us busy overcoming difficulties. Two other herbaceous species call for mention and then we will consider the shrubby kinds. The two species in mind are *S. Filipendula*, which is a singularly neat-growing and easy native species for a cool border, with foliage which is useful for arranging with

many kinds of cut-flowers; and *Astilbe grandis*, of which the towering white spikes and handsome foliage make a wide appeal. There is a double variety of *S. Filipendula* which is singularly handsome, but surprisingly little seen



ONE OF THE MOST EFFECTIVE OF THE SHRUBBY SPIRÆAS, *S. LINDLEYANA*,

No attempt has been made to make the foregoing list a catalogue of species or varieties; rather an attempt has been made to call attention to some beautiful but neglected forms.

The name of the shrubby Spiræas is legion, but in probably no genus of shrubby plants are there so many useless forms in commerce. This notwithstanding, some of the species and varieties are supremely beautiful. There is the dwarf and spreading *S. Bumalda* with that supreme variety, *S. Anthony Waterer*. An excellent plant the last for the front of a shrubbery, but to obtain the best effects the old wood should be removed each season and the young wood shortened considerably. *Spiræa callosa* is, at any rate, in the writer's opinion, of little value. *S. prunifolia* fl-pl., with pearly white rosettes, is probably the most beautiful of all. It has an arching habit of growth which too close pruning must destroy. *S. Van Houttei* (*cantonensis* × *trilobata*) is more ordinary in appearance, but yet very beautiful. It needs but

of the Tyrol, the most particular may include it in his alpine collection. It spreads by means of underground "wires," so is easily propagated. Other desirable alpines are *S. Hacquetii*, *S. caespitosa* and *S. pectinata*, the two last mentioned from the mountain slopes of the New World. Different entirely in character—larger growing but very desirable in character for the fair-sized rock garden—is *S. Thunbergii*. This is beautiful in flower and, like many Japanese shrubs, extraordinarily beautiful in autumn when the leaves take on tints of old rose and crimson.

Before leaving a very diversified and interesting race of plants, it may be well to point out that because such plants need abundant moisture it does not by any means follow that they like stagnant moisture such as is too often found in bog land. As a matter of fact, the shrubby kinds in particular like a fairly sweet soil, but one which does not become over-dry during the growing period.

SAINT DOROTHEA

The frontispiece of a rare old flower book of 1616 suggested a walk down the Avenue of Garden Saints. Its result.

GARDENING is far more than ever a "super goose-foot" in the number of avenues which radiate from it and down which its votaries may wander with interest and pleasure. One of these is labelled Garden Saints. It is probably one of the least explored, if I may take



THE GATEWAY TO THE PAST!

as a guide the answers given by gardeners to my question, "Who was St. Dorothea?" So far the invariable reply has been, "I am afraid I do not know." I must confess I did not know myself until a very scarce old flower book came into my possession—"Le Jardin d'Hyver," by Jean Francau de Lestocquoy, published at Douay in 1616. On the frontispiece are two figures, both bearing the martyr's palm. The one on the left is a woman, St. Dorothee, and that on the right is a man, St. Theophile. Above them is an angel appearing out of the Glory, who is handing to St. Dorothea a garland of Roses and to her companion a basket of flowers. Why did the author introduce these two figures on his frontispiece? Sometimes in these ancient books there is a poem called "The Mind of the Frontispiece"—as, for example, in John Rea's "Flora, Ceres and Pomona"—which lets us into the secret; but no such writing is attached to "Le Jardin d'Hyver," so the would-be interpreter must depend upon his knowledge or research if the enigma is to be solved. One remembered that Columella, in his tenth book on Roman Husbandry, treats "Of the Culture of Gardens" and introduces us in Priapus to the ancient progenitor of the modern scarecrow—or, rather, perhaps, spring-

gun:
"Him, in the middle of thy garden, place,
And to him, as its guardian, homage pay,
That with his monstrous parts he may deter
The plundring boy; and with his threatening
scythe,
The robber from intended rapine keep."

But, of course, one could not expect to find Christian martyrs there. "Try Batty Langley," said a friend. He wrote when statues and busts were "all the go," and in his "New Principles of Gardening" he gives a long list of those which are appropriate to the different parts of a "beautiful Rural Garden." For open lawns and large centres: Mars, Jupiter, Apollo, Euterpe and so on. For woods and groves: Ceres, Flora, Echo, Philomela and others. For canals, basins and fish-ponds: Neptune and other gods and goddesses. I went through the whole list and found they were a heathen crowd. There was not a Christian among them. Clearly one must search elsewhere for Dorothea.

Now, whatever truth there may be in the saying that everything comes to him who waits, it would appear to be a more certain truth still that the open and keen eye gets more than it expects. For a long time now I have been keeping my eyes open, picking up one little bit of information here and another bit there as I kept wandering down the Avenue of Garden Saints. I have now found out that Dorothea was a lady of noble birth born at Caesarea, who was condemned by the Roman Governor, Fabricius, to be executed because she refused to sacrifice to his gods. On her way to the place of execution a lawyer, whose hand she had refused because he was a heathen, begged her to prove the truth of her stories of the Heavenly Paradise by sending him some of the flowers and fruits from her Bridegroom's garden:

"Now as she died the scoffing lawyer stood
Among his comrades, jesting at the gift
The Maiden promised. But when now they sat
Feasting, around them gilded images
Of the false gods, taking no care or thought
For what had been, the torture and the pain,

Lo! suddenly a heavenly presence showed,
From whence he knew not, fair, with shining face,
And locks of gold, and eyes as blue as Heaven,
And in his hand a basket with the fruits
And flowers of Paradise, who spake no word
But 'Dorothea sends them and she goes
Before thee to the garden whence they came,
And doth await thee there' and having said
Vanished as he had come."

"Then cried they all that saw these things, and said

It was God's doing, and was marvellous,
And in brief while, this knight Theophilus
Is waxen full of faith, and witnesseth
Before the King of God and love and death,
For which the king bade hang him presently.
A gallows of a goodly piece of tree
This Gabalus hath made to hang him on.
Forth of this world to Theophile is gone
With a wried neck, God give us better fare
Than his that hath a twisted throat to wear;
For truly for his love God hath him brought
There where his heavy body grieves him nought
Nor all the people plucking at his feet;
But in his face his lady's face is sweet,
And through his lips her kissing lips are gone:
God send him peace, and joy of such an one."

Readers will recognise that I have, as it were, jig-sawed the last part of the tale. Both the rhythm and the outlook proclaim the extracts are from two writers, and in truth they are, and this is done purposely to show that the mythical and mystical tale of this virgin martyr has appealed to men of such diversity of outlook and method as Lewis Morris and Algernon Charles Swinburne. They have each of them made the Saint the subject of a poem of striking similarity, yet with



THE MARTYRDOM OF SAINT DOROTHEA, AS PICTURED BY BURNE-JONES.

no less divergent details; as did Massinger (1585-1638) in his famous tragedy of "The Virgin Martyr," who, like them, introduced still further differences, inasmuch as one Antonius, son of Fabricius, is made "the lover of the young girl whose last prayer for him is that the affection in which he languishes to death may be changed to the love of heaven." Thus Dorothea is sung in modern days; but her fame is of long standing. In a Breviary of 1321 we get these lines:

"Paradisi de veridiso
Rosas mittis notario
Quem mortis cum salario
Cœli jungis sacerario . . ."

which is thus translated in Mrs. Arthur Bell's "Lives and Legends of the Great Hermits and Fathers of the Church, with other Contemporary Saints":

"From the green fields of Paradise
Roses to the lawyer dost thou send
Where by him thou shalt be joined
When he, too, the reward of death hath won."

In pre-Reformation times her figure would frequently be seen on English rood-lofts. Those of North Elmham, Blofield, Yaxley, Westhall, Trimmingham and Walpole St. Peter are samples of a widespread popularity which elsewhere took a more secular form; for in Flanders, after the upheaval and upset of the time of the mad Tulip mania, when legitimate dealers in bulbs were all at sixes and sevens and a general spirit of distrust was visible in their private selling; "because this could not be done without Animosities thereupon the Flemish Florists erected a Fraternity in the Cities; and took St. Dorothea to be their Patroness and the Syndicus to be Judge of the Differences, that might arise by their Truckering; and he to add more Authority to it called in four of the Chief of the Brotherhood and this was the Occasion of the sweet Conversation of the Brothers and brought them into great esteem. The Dutch keep in this Matter another Rule; they meet together on a certain Day, when tulips are in their full bloom and choose after having seen the chief Gardens of the Florists, and taken a friendly and frugal dinner together, one of the Company to be Judge of the Differences that might arise about Flowers in the Year." This is quite an idyllic picture. Alas! the old order has changed, giving place to new. On going about Haarlem, Hillegoom and elsewhere to see the Darwin, Cottage and Breeder Tulips in bloom I have had more than a hint not to bring a Dutch friend with me, and I have found to my cost that the frugal fare has developed as often as not into a big champagne lunch!

St. Dorothea suffered martyrdom, after having been stretched on the rack and her flesh torn with pincers, on February 6, 311. Ever since her festival has been kept on that day, and she has been regarded for a very long time as the Patroness of Gardeners. I can only suppose the Puritanical spirit that prevailed all through the eighteenth and nineteenth centuries acted as a silent but relentless veto upon the introduction into English gardens of any statue that in any way savoured of "Popery." As it was in the days when Hentzner and his young German pupil visited Nonsuch, Theobalds and Hampton Court in the reign of good Queen Bess, so it is now. But why should this be? If there is anything in the contention of a Batty Langley or a Wheatley, that the appropriate introduction of the statue of a well known subject of mythology, history, poetry or tradition may animate or dignify a scene, and so stir up feelings of sympathy in the heart of the beholder, surely for those who use their gardens as a resting place, "far from the busy hum of men," or as a

refreshment for their jaded spirits, might find strength and encouragement in the contemplation of a Dorothea. She is represented in various ways. Sometimes with a basket of fruit and flowers, one in either hand; sometimes with a basket of fruit and a book; sometimes with a basket of fruit and a palm; now crowned with flowers; now with Roses in her lap; and now offering flowers to the Holy Child. Curiously enough, she is the Patron Saint of young lovers

and brewers, a title which, however, she divides with Saints Adrian and Amand. The origin of this latter honour I have failed to discover. As I still hope to make excursions down the Avenue of Garden Saints, perhaps some day I may know. For permission to reproduce the plate from "Great Hermits and Martyrs of the Church," of the Martyrdom of Saint Dorothea as portrayed by Burne-Jones, I am indebted to Messrs George Bell and Sons, the publishers. JOSEPH JACOB.

"PRICKING OFF" AND ITS UTILITY

The writer considers the advantages and disadvantages of an indispensable operation.

THIS is an operation frequently practised in horticulture. The *raison d'être* for the practice being the wider spacing of young plants grown in the seed-bed which have become crowded and, in consequence, rob each other of light and air necessary for their normal development. The operation dispenses with the need for sowing seeds where the plants are to grow, a great convenience for many obvious reasons. It permits the sowing of seed to be made in smaller spaces, and gives one the freedom to choose and dispose of it under conditions the most favourable to the future well-being of the seedlings and young plants. Also the care necessary at this period can be more readily accorded to them.

It goes without saying that one can by this method obtain a better "braird" and the young plants will be more vigorous. Moreover, it is therefore possible to gain time and to procure a crop earlier, as preparation can be undertaken before the temperature of the air or soil be propitious for the vegetable, fruit or flower one contemplates growing. Or it may be, as in the case of hardy open-air growing plants, that the ground is not ready to receive them.

Again, in "pricking off" one ruptures the main or tap-root, breaking off its first ramifications and thus favouring the formation of root hairs, which renders less perilous a further transplantation. There are, then, evidently many practical advantages which in themselves justify the operation.

Since it is only by viewing both sides of a question that a true perspective can be obtained, let us consider "pricking off" and its influence on the growth of plants. We have hitherto considered the advantages gained by doing this work, but that it will always be beneficial to the plant to practise it is a very debatable point.

It is freely admitted that the breaking off of the tap-root and consequent encouragement of the emission of numerous small roots exercises a happy influence on the growth of the plant.

It has been proved by extensive trial that from sowings made in the open ground the earliest and heaviest harvests were gathered from crops not "pricked off." The weight of plants of the same variety from a like area in a given period submitted to "pricking off" has been much less in quantity and later in attaining maturity. The effect on the plant is that, deprived by the "drawing" of their extreme radicles and of their piliferous layer, they cannot, despite repeated waterings, maintain themselves in the state of turgescence necessary to their continued development. Nay, more, they exhaust themselves, for, their assimilative activity having been so much reduced, they are constrained to live at the expense of their own substance. This they must utilise in the reconstruction of their radicular and organic

system. From this we may deduce that "pricking off" or transplanting occasions an arrestation of the growth of a vegetable. This check will be intensified, according as the circumstances are



PRICKING OFF ANTIRRHINUMS.

This has been left over-ong—the plants are "drawn."



PRICKING OFF HERBACEOUS CALCEOLARIAS.

more or less favourable to an active transpiration. The conditions favouring active transpiration are a dry and agitated atmosphere combined with a high temperature in an exposed situation. It follows that the plants will suffer less from the operation if the air is humid with a relatively low temperature on a dull day. Transpiration also will be greater in proportion to the age of the plants and the consequently greater expanse of surface foliage. As an aside, this may explain why as journeymen gardeners we were instructed—with no explanation as to the wherefore—to "lift" them carefully with a good ball of soil attached, afterwards affording a copious watering and shading if necessary so as to limit as much as possible the check given in transplanting.

Many gardeners, without having a very clear idea as to why they do it, take advantage of this retarding effect caused by pricking off or transplanting. In late autumn if spring Cabbages are

growing too freely and making succulent growth not calculated to resist the vigours of winter, he partly lifts them with a fork—firming by treading afterwards—to check them. It may, on the other hand, be a young fruit tree planted loosely in over-rich soil making long and unfruitful growth which requires to be "checked" for its own and its owner's profit. These and many other instances

of a similar kind will occur to the minds of observant gardeners.

From a survey of the pros and cons the conclusion to my mind is that the greatest benefits and advantages to be derived from pricking off are to be obtained when the work is done in early spring or autumn. If it cannot be done just at the right time, better too soon than too late.

DEANSTON.

THE CULTIVATION OF ARUMS

The Arum is widely cultivated, but in private gardens is seldom grown to best advantage. Follow clear notes on its treatment throughout the year.

EXAMINATION of some standard works on horticulture reveals a remarkable lack of information concerning the culture of the Arum Lily. Having grown this superb flower successfully for upwards of twenty years, the writer feels that his experience may be helpful to other growers or intending growers. Arums can be used satisfactorily for indoor decoration following Chrysanthemums, which seldom last into the New Year; moreover, they are most acceptable for Christmas decoration in churches and public halls. In addition they can be used for sundry other purposes, wreaths, bouquets and floral designs.

The means of propagation is by lateral growths, which are small rhizomes developing on all sides of the main rhizome. During August the largest of these lateral rhizomes are split off from the parent plant and potted up into 7in. pots, three being allotted to each pot. The ideal soil consists

of a good mixture of leaf mould and fibrous loam at the rate of one to three. The best loam to use is that obtained from spent Melon beds, and it should be well decomposed. Half fill the pots with soil; place the rhizomes on this, and fill to within an inch of the top, pressing the soil moderately firmly around them. The crowns of the rhizomes should be about $\frac{1}{2}$ in. below the surface of the soil. The pots should now be stood in partial shade for about a fortnight, after which they can be removed into full sunlight, where they are allowed to remain until the approach of frost. During this period they should be copiously watered. Regularly, once per week, they should receive an application of manure water obtained in the following manner: Equal parts of soot and cow or sheep manure are mixed into a paste with a little water; one bucketful of this mixture is placed in a tub or other suitable receptacle and twenty gallons of water added. Apply this liquid manure at half strength through-

out the whole of the growing season. By the time they are taken indoors in about October the plants should have filled the pots with roots. The greenhouse wherein they are now placed should be heated, the range of temperature being from 55° F. by night to 65° F. by day, air being admitted on all favourable occasions. These temperatures should be maintained throughout the growing season until mid-April, when the plants can be taken out of doors, placed in partial shade, and protected from late frosts until the middle of May, after which they can be put into their summer quarters.

The summer quarters most suitable for Arums consist of a trench 18ins. wide and 18ins. deep. The bottom 6ins. of this should be filled with well decayed manure, a further 6ins. of soil should be added and the two well mixed. The "Lilies" should now be taken out of their pots, the crocks removed and the plants stood in the trench from 4ins. to 6ins. apart. The surplus soil from preparing the trench should stand on either side as in the manner of a prepared Celery trench. This soil is now to be filled in around the Lilies and consolidated by being lightly trodden. The plants should next receive a heavy watering, which will complete consolidation; after this they will require no further attention until growth recommences. During this period the foliage remains active, manufacturing food which is stored in the rhizomes. After a while their activity diminishes and the leaves turn yellow and die down over the crown; when quite dead they should be carefully removed. In late July or early August new green leaves will be thrust up; this marks the commencement of a new season of growth, which should be allowed to go on in the bed until about the second



WHERE THE WHITE ARUM (RICHARDIA AFRICANA) RUNS RIOT IN THE NILGIRIS

CORRESPONDENCE

ROMAN HYACINTHS FOR CHRISTMAS.

IN growing flowers for Christmas I invariably pot up one or two bowls of Roman Hyacinths. For an amateur who has no greenhouse they are the most accommodating of all early forcing bulbs, as at no stage of their growth do they require a high temperature to bring them into flower by Christmas. I usually grow them in fibre in bowls without drainage, putting them into the bowls about the last week in August or early September. The accompanying illustration is of a bowl planted September 14 and photographed December 24, 1921. The fibre needs to be made just sufficiently moist to handle freely without the moisture squeezing out when a handful is pressed. A little crushed charcoal placed in the bottom of the bowl prevents the fibre going sour. Place fibre in the bowl to a depth of about 2 ins., on which place the bulbs, then fill up the bowl just covering the bulbs, but do not press the fibre in too tightly. Place them in a cold frame, or place out in the open, and when in position give them a good watering through a rose. They then require no further watering until taken indoors. Then cover the bowls with fibre to a depth of about 2 ins. If the weather is mild it is better not to put any further covering on them, but in case of severe frost it is better if in frames to put on the lights; or if outdoors, cover with mats, sacks, or anything that may be available. When top growth is advanced about 1 in. they should be uncovered and given a good soaking, draining off any surplus water by tilting them. The bowls may either be left in the cold frame with the lights on, or put into a light, airy window where there is a regular temperature of about 50° to 55°. If kept at a higher temperature they will flower before Christmas. If the outdoor temperature is low and the growth is not sufficiently rapid, move them into a greenhouse or a warmer window. Nine-tenths of the failure to flower bulbs successfully in bowls is due to allowing them at some stage of their growth to become root dry. That is fatal to success, as once they are allowed to become dry, no amount of watering afterwards will cause them to recover. There is one other point that should be noted. If the bulbs are plunged outdoors with a covering of 2 ins. to 3 ins. of fibre, and there is an excessive rainfall, something should be put over them to prevent their getting too much wet, as if they get an excess of water before root growth is fully

advanced, it is almost as injurious as allowing them to get dry. The latter applies to all bulbs which are grown in fibre. Mice are partial to Tulips and Crocus, and a look out should always be kept for their depredations. I have never yet failed



A FINE BOWL OF ROMAN HYACINTHS AT CHRISTMAS-TIME.

over a number of years to have good Romans at Christmas.—G. W. L.

SOME PYRENEAN ANDROSACES.

LAST year, being in the Pyrenees, I made enquiries about two different families of plants: the Saxifrages (particularly those of the *Dactyloides* section) and Androsaces. I purpose now to write of these latter treasures, *Androsace Lagerri*: The "Index Kewensis," like many botanists, considers this only a form of *A. carnea*. Having grown it for forty-nine years, I know it well. Everyone who grows alpins knows that there are chalk-loving and chalk-hating forms. *A. carnea* is lime hating and *A. Lagerri* lime loving. The one is, of course, the form from the chalk; the other from neutral formations. *A. carnea* grows as little very dark-leaved bushes not exceeding 2 ins. across. *A. Lagerri* forms very large tufts, sometimes a foot broad, very dwarf and of clear colour. Its leaves are thin, narrower than those of *carnea*, never reddish, but always of a light green and very pointed. The leaves are never glandular, as are those of *carnea*, but

week in September, when the plants should be taken up and repotted into their flowering pots. Lifting should be carefully performed and the soil adhering to the roots should be moved with the plants to the potting shed. Here all the exhausted soil, which can be easily recognised by the line of previous potting, is removed by means of a pointed stick. It will come away readily. The gin pots used should be clean and crocked and the crocks covered with an inch or so of friable decayed manure. Potting soil as previously described is again used. It should be worked well in around the roots and crown. The plants are now placed in partial shade and kept syringed or watered overhead with pot and rose, twice daily to prevent wilting. The next operation is staking, which is most satisfactorily performed with canes and raffia.

After about a week they can be removed to full sunlight to harden-up prior to being taken into a cool greenhouse. Here they remain until frosty weather, when they are removed to the heated greenhouse, where the temperatures as advocated for the first season's growth are again maintained; within a fortnight after this flower buds should appear. The flowering period should extend over about six months; that is, until the end of April. This stock of plants will last for about seven years, by which time the rhizomes become elongated so as to render satisfactory potting difficult, therefore it is necessary to remove about 2 ins. from the lower end of each rhizome with a sharp knife. It has been found advisable to retain a number of the young lateral rhizomes, since these throw up foliage which can be used for decorative purposes, as, for example, with Roman Hyacinths and the like.

The chief insect pests of the *Arum* are aphid and red spider, the latter only occurring when the plants are grown in too high a temperature and when the atmosphere is too dry. Aphid can be kept in check by fumigating with any of the usual proprietary fumigants or by a soap and nicotine spray. A very efficient spray is made with soft water; it contains soft soap 1.6 per cent. and nicotine .05 per cent.

The most useful species is undoubtedly *Richardia africana*, sometimes called *athiopica*, the white *Arum*. According to Robinson ("The English Flower Garden"), this variety "was first introduced into Europe from South Africa in 1687." Referring to its growth in the British Isles he states, "In some parts of this country, for instance, Cornwall, it has become naturalised in shallow water, spreading and flowering with the same freedom as in the ditches and swamps of the Cape." In Gloucestershire it flowers well and maintains its vitality when planted in pond mud, around the edges of fountains and ponds, and winters quite satisfactorily. This species is undoubtedly the best for greenhouse culture. Another good species is *Richardia hastata*, the Yellow Calla. It is smaller than the white *Arum*, with which it affords a pleasing contrast. Hooper ("Gardening Guide," 1883) describes it as follows: "Its flowers are of similar form (*i.e.*, to the white *Arum*), and of a beautiful soft yellow colour, the throat being purple. It is hardy, and out of doors comes a deeper colour than under glass, but it nevertheless makes a beautiful pot plant." He recommends that "the soil used for it should be light, almost sandy."

Where *Arums* are cultivated along the lines herein suggested, with suitable modifications according to local conditions, success and satisfaction are insured.

The illustration on page 32 shows it luxuriating in damp ground in the Nilgiri hills (India); but it makes almost as fine a picture in shallow water by an English lake-side. WILLIAM H. MILES

ciliate with short and single hairs, instead of which carnea has one or more bifurcate hairs, very long. But the chief character is that the stalk is accrescent and, being at first very short, grows as the flowers expand until sometimes 4ins. long. The plant is of easier culture than carnea and forms in the rock garden large clumps of pinkish-rose flowers, very shortly stalked to begin with, as already explained, but lengthening in a wonderful way. In the months of March and April it is the most brilliant flower in the garden. Another very fine *Androsace* is *ciliata*. This is exclusively Pyrenean. It grows on the cliffs of the high peaks above 5,500ft. Near to our alpine glacialis, it has much bigger flowers and forms dense zin. to 4in. cushion-like tufts, which are, from June to August, covered with deep rose, quite sessile flowers. *Androsace cylindrica* is another very rare kind, which grows only on a very small area in walls supporting the path at the Cirque de Gavarnie. Near to *pubescens*, it differs from it by its sub-frutescent stems and its very small, reflexed, whitish green leaves. *A. hirtella* is a form of it growing under the same conditions, but with long hairs, either single or divided. The flowers of both are white and sessile, so form dense patches. They both require a south wall or a crevice in a dry rockery. *Androsace pyrenaica* is a rather rare plant growing between siliceous or granitic gravels or rocks at the highest altitudes (always above 6,700ft.). It is near our *argentea*, but still denser and more "cushiony," and the tufts of very old stems very close together are extremely curious to see. It grows freely in England, as I have friends there who have sent me beautiful photographs of it taken in their rockeries. It seems even to prosper better in some English gardens than in the high Pyrenees. It likes, however, the perpendicular position, as does *Saxifraga longifolia* (that is, it should be planted horizontally). *Androsace villosa* forms, in some limestone cliffs of the Pyrenees, immense carpets of flowers from May to July. It is particularly rich in the neighbourhood of the Pic du Midi and is often mixed with *Laggeri* and even with *Vitaliana*. The most wonderful thing I have seen in the Western Pyrenees is *Soldanella villosa* (Darracq). It is near to *montana*, though larger in leaf and flower; but it has the stem and base of the leaf quite hairy. I was glad to find the very curious and rare *Saxifraga Clusii*, which grows on the walls near the Pic du Midi, and in damp underwoods, here and there. *Lilium pyrenaicum*, which is, nowadays, becoming rare.—H. CORREYON, *Floraire, Geneva*.

BEGONIA NARCISSIFLORA.

IN the issue of THE GARDEN dated January 7 it is stated that "few readers will this year succeed in obtaining the new narcissiflora strain, but those in search of novelty may, with confidence, try . . ." We beg to point out that we are offering seed and tubers of this novel type of *Begonia*. The seed was saved in our own nurseries, and the tubers were grown from selected seedlings, all of which flowered with us last season. We also beg to point out that the photograph of this *Begonia* which appeared in THE GARDEN some little time ago was taken in our nursery—DOBBIE AND CO., LIMITED.

Our correspondent who sent the picture reproduced in our issue of October 22 last, in reply to an enquiry, stated that he understood that the well known Edinburgh house would not be able to offer this strain this season, hence the note Messrs. Dobbie refer to. He mentioned at the same time another firm who had a little seed to offer. We are glad to hear that Messrs. Dobbie can supply seeds and tubers, and welcome the

opportunity of correcting an unintentionally erroneous statement.—Ed.]

IRIS TINGITANA.

OF all the bulbous species of *Iris*, both for beauty and utility I know of none that can compare with *tingitana*. Here, on Christmas Day, we were able to cut beautiful spikes from a foot to 18ins. long, with grey, glistening foliage, surmounted by Orchid-like flowers of the richest blue with tangerine markings. This species does not seem to be in general commerce, as here, in Liverpool, with its many high-class florists' shops, we failed to notice a single flower displayed in any of the windows at the time when ours were in their full glory. Of course, *I. reticulata*, that

strongly scented flowers were crossed, and out of a progeny of 3,500, five only were clove scented. Having noted these facts, let us turn for a moment to a reference made in another part of the book to Mendel's laws—Professor Mendel, as he is erroneously styled. Mr. Douglas wishes that Mendel had taken the Carnation for his experiments, but a knowledge of the work done by the observant monk and the bases on which his theories became laws makes it clear that the Carnation was not a subject that would have helped him in his surmises. The complicated crossing and interbreeding that have taken place through many generations have too thoroughly erased the elemental factors, dominant and recessive, which build up the simple hybrid—the first generation



IRIS TINGITANA, FLOWERING OUTDOORS IN MAY.

little gem with its subtle scent, peeped out here and there, but it is a pigmy in comparison with *tingitana*, whose noble spikes when arranged in tall glasses were the admiration of all who saw them here. I should be pleased to give the readers of THE GARDEN the cultural details which led up to our success with this fine monocotyledon, if you so desire.—R. MCHARDY, *West Doby*.

[Particulars of the successful cultivation of this charming flower would be of interest to many readers.—Ed.]

A CORRECTION.

ON page 21 of THE GARDEN a correspondent, J. W. Brigstock, Wisbech, says that, on page 630, "Somers expresses his appreciation of the Dutch bulbs ordered direct from Holland." Will you permit me to say that, so far, I have written nothing whatever on this subject.—SOMERS.

BORDER CARNATIONS.

I HAVE been reading Mr. Douglas's book on "Border Carnations and Cloves," published by "Country Life," Limited, and its perusal stirs many thoughts regarding the cultivation of these plants. I was particularly struck with the author's experience of the two crosses detailed. In the former of these he crossed two yellow selfs, Daffodil and Germania, and out of 2,000 resulting plants not one was a yellow self! In the latter, two

offspring. Without these factors Mendel's principles would, in all probability, have been still-born; but all that apart, let us now see the Mendelian interest attaching to Mr. Douglas's experimental crosses. His results seem to emphasise two pronouncedly recessive characters in the flowers of the modern Border Carnations, viz., yellow pigmentation and clove scent. If that can be taken for granted, it would at least mark some small progress towards certainty in the hybridisers' work, and it is a pity Mr. Douglas did not go further in his experiments with these seedlings. In Mendel's law of Segregation and Purity it is shown that if second generation dominants are self fertilised they will throw 75 per cent. dominants and 25 per cent. recessives, but—and here is the important point—if these recessives are self fertilised and a third generation formed of their progeny, these are true recessives without a trace of reversion to the dominant characters of their parents, just as pure dominants breed pure. It would have been highly interesting to know what results would have accrued from the self fertilisation of these seedlings, and it is just possible the recessive characters would have reasserted themselves after skipping a generation. Mr. Douglas makes the somewhat staggering statement that Carnations can now be had in every known colour; but, even leaving out the obvious exceptions such as the blue of *Gentiana Verna* or the green of *Isia viridiflora*, we are woefully weak in all shades of purple, heliotrope and lavender, let catalogues

speak as they will. Again, there is no buff Carnation of the lovely shades seen in some of the *Gladiolus Primulinus* hybrids, such as *Cassandra* and *Topaz*; no saffron, no true violet; many of the orange combination colours are wanting, those grading into the vermilion and salmon shades for instance. Many shades of red are still unknown to the Carnation, and who has ever seen in the Carnation world that wondrous ethereal tint of *Gladiolus Byron L. Smith*? No; I have more hope for the future of the Border Carnation than to think we have reached finality in colour, and I do not think growing for new varieties would be half so interesting if "every known colour" were already on the palette.

While I am on the tack of destructive criticism I might point out a debatable subject which must be of great interest to Carnation growers. Touching on diseases, Mr. Douglas makes certain remarks about rust which I fear many practical growers will find at variance with their own experience. For instance, he likens rust to "a rash caused by overeating," and blames overdoses of potash administered through the agency of burnt garden rubbish as a frequent cause. Now, in the case of two well known and successful growers of Carnations the result seems to be far from that indicated by the author. In the former instance a moderately rich compost is used, but what seems to me to be an excessive proportion of burnt refuse is employed every year, although the proportions of soil ingredients are varied each season. In the second case, no animal manure is used at all, the only stimulants employed being a sprinkling of bone-meal and a liberal dressing of burnt wood-ash from the garden bonfire. Now, though I have seen the plants in these two collections at different periods of the year I have never seen a spot of rust on the foliage. Our own experience is similar; last year we potted a section of our plants in a control compost of sound, fibrous loam, very slightly enriched with added manures. Five other sections were potted in five different soils, varying in degrees of fertility—some rich in phosphates, some in potash, and some in nitrates. At that time, pending the completion of new Carnation premises, we were growing our plants under adverse conditions and we had more rust than we bargained for, but careful examination did not reveal any one compost more blameworthy than another, the control compost giving perhaps slightly, but very slightly, the most satisfactory results in this respect, though not the best flowers.

I am glad Mr. Douglas makes a strong point of the hardness of the Border Carnations, and of the fact that any soil can be made to grow them well, whether light or heavy. It is quite extraordinary how insistent certain people are that the Carnation will not grow in their gardens. As a rule, these decisions are second-hand, and frequently denote other interests on the part of the gardeners of the establishments in question. I would go further than Mr. Douglas and say that the *Picotees* are also admirable for bedding, at least in the South and Midland districts. Such varieties as *Cheam*, *Santa Claus*, *Her Majesty*, *Mrs. J. J. Keen* and *Margaret Lennox* make extremely fine plants even in exposed localities and on heavy soil.—J. L. GIBSON, *Crawley Down, Sussex*.

[From a Mendelian standpoint the difficulty with the Carnation would seem to be rather a multiplicity of probably overlapping factors which have, so far, not been disentangled, rather than excessive cross-breeding. The garden Pea, for instance, or the Sweet Pea, have been long in cultivation, but they both illustrate admirably Mendel's Law because their factors are comparatively few and simple.—ED.]

A NATIONAL DAFFODIL SOCIETY?

MR. JACOB'S contribution of December 31 to this discussion repeats clearly what the other advocates—or may I call them agitators?—have propounded as the work of the said Society. Let me repeat his summary with what appear very obvious comments:

(1) Holding of two shows a year, one in London and one in Birmingham. These we have already. (2) Publishing a Year-book. This we have not got, but it could be had now if subscribers enough were forthcoming; but I should add that the cost under present conditions would be prohibitive, as anyone knows who is at all concerned with printing and publishing. (3) A forced or pot-grown show in March. This we have already. (4) A London dry bulb show in August. This we have already; an affair of small attendance, as it must always be. (5) Deputations to local shows. This we have had and can have from our present *personnel*. (6) Any necessary Daffodil legislation. This is fairly vague, but would seem to be covered by the functions of the R.H.S. Narcissus Committee. (7) The united support of traders and amateurs, both of whom must be catered for. Here is some confusion of thought between the maintenance of such a Society by the people affected and the Society's allurements to obtain their maintenance. This clause is simply a proviso that the Society shall be a success all round.

Mr. Jacob now adds that there would have to be a London organisation and a Birmingham one to carry out the idea of two annual shows, and that it seems to him silly to scrap the organisation connected with the latter. Now I must ask sensible folk to consider the elaboration of fussy super-officialism that it is proposed to heap upon this modest flower—a National Society with its officers and Committee, the large R.H.S. Narcissus Committee, a London organisation, a Birmingham organisation and the existing Birmingham Committee! I have received a proposal, among the letters which this affair has brought upon me, that the R.H.S. Committee, *with the addition of other names*, and the Birmingham Committee shall be amalgamated! The R.H.S. Committee alone is unwieldy enough and twice too big for efficiency.

And all this machinery for what provable advantage over what we have? So far as I have kept count, *every* trading firm and *every* amateur grower with a flower worth notice attends the existing shows. Who are the people who would hypothetically flock to a National Show? A correspondent writes that what we want is a *big* London show, and he instances the bigness of the National Sweet Pea Show. Those who are pushing this concern have curiously overlooked an obvious factor. There is this abiding difference between the Daffodil's popularity and that of the Sweet Pea, the Rose, the Chrysanthemum and other quickly propagated flowers: the most attractive and newest of these comes within everyone's reach speedily and for a small sum. A new Daffodil cannot be handled at all under ten years from the seed and must always be rare and beyond the purse of the average gardener. Therefore, from the commercial aspect of a National Show, buyers beyond those who buy already will be scarce, except of the old and cheap kinds. Take at random two flowers named by the rhapsodist on page 9, January 7—*Cædmon* and *Horace*. These were raised by me, one a full score of years, the other many years ago but have hardly yet entered the average garden. And there are flosses, real enough, to be set off against the visionary profits. There has been one quiet, delightful show, in the Edghaston gardens. There was, years ago,

a proposal to "popularise" it by its removal to (I think) the Birmingham Town Hall. Some kind and peaceful deity averted this; but this, or this kind of thing, will infallibly be carried out by the new machinists. And I hear—I had almost written I smell—a brass band.—G. H. ENGLEHEART.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Tomatoes.—A sowing of seed should be made now to supplement the supply of fruit from the autumn sown batch. Germinate the seeds in a temperature of about 60° in well drained receptacles of sandy soil, and endeavour to produce strong sturdy plants by growing in a light position. The autumn sown plants, if well rooted in 5in. or 6in. pots, may be placed into 8in. for fruiting. Pot firmly, using good fibrous loam, with some wood ash, old mortar rubble and well decayed manure added in small quantities.

Onions.—Where arrangements can be made for an early sowing in gentle warmth the present time is suitable. Use a fine light soil for the growth of the young plants, and when they are about 3ins. or 4ins. high prick out into boxes several inches apart, again using a fine rooting medium. This method of culture is certainly a good one and should be followed if possible when well grown bulbs are in request for any purpose. It is most noticeable, too, how particularly free Onions so started are from the maggot trouble.

Peas.—To obtain early pickings of this greatly appreciated vegetable, culture under glass in some manner must be resorted to. Plants may be grown in pots, boxes, narrow borders or frames, whichever may be most conveniently arranged for. A sowing should also be made in boxes and grown sturdily under cool conditions, to be available for planting outside on a warm border at the first favourable opportunity, when the weather and the soil are suitable.

The Hardy Fruit Garden.

Bush Fruits.—Where the wood of Black Currants was thinned out after fruiting was finished, little will need to be done now. If not done at the time mentioned, thin out the old wood, leaving sufficient of the strongest young shoots to preserve well balanced trees. With Red and White Currants pruning is done on the spur system, but for young trees being built up allow the main shoots to remain at about a third of their length, unless the condition of the wood does not merit it. Gooseberry bushes, too, are closely pruned by the majority of growers, while others allow a somewhat greater freedom of growth. In the one case it is only reasonable to expect finer berries, and in the other a greater amount, so the requirements of each particular garden may decide which method is to be followed. Whichever plan is adopted, the centre of all bushes should be kept open for this is beneficial to the trees and to those who have to pick the fruit.

The Flower Garden.

Supporting Trees.—Particular attention should be given in their young stage to specimens to ensure, if possible, straight growth, and also as a safeguard against injury in wind storms. Young standard trees in exposed grounds are best held in position by the tripod stake arrangement, but should a single pole be deemed sufficient it should be driven in on the side of the tree from which the wind is strongest and most prevalent. It is essential that the supports are not allowed to rub the trees, or perhaps irreparable damage may be done in a short while, therefore see that all ligatures are ample and well made. In the case of large specimens, where it may be necessary to loop several huge branches together, I think instead of chaining them together a more satisfactory result is obtained by using bolts for the purpose. Holes or cracks in trunks of prized specimens should be filled with cement, or a covering of sheet lead or tin adjusted, thus checking internal decay.

Fruits Under Glass.

The Orchard House.—The work of cleaning the house and the trees should be completed as soon as possible, so that a start may be made by closing it. The more natural the conditions can be kept

in this house the more satisfactory will be the results. Trees occupying permanent positions in the borders should, if necessary, be given a liberal top dressing of which nearly all should be good fibrous loam. It may be necessary in the case of old or exhausted permanent plants to supplement this top dressing with one of well decayed farm-yard manure, but in the majority of cases it is better to let the sun and air warm and sweeten the border before applying it. If any of the trees, whether planted out or growing in tubs, etc., are at all dry, give a thorough watering so that the roots will be in a suitable condition to respond to gentle forcing. Artificial heat must be sparingly used.

H. TURNER.

(Gardener to the Duke of Northumberland)
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

French Beans.—Owing to its adaptable qualities for forcing, this delectable vegetable is largely grown during the early months of the year. Pots 8 ins. in diameter or boxes of a convenient size suit nicely. When sowing, avoid overcrowding, five plants to each pot being ample. Use a compost of light loam and leaf mould, allowing for free drainage. Red Spider must be guarded against, as the plants are readily susceptible to attacks of this pest when grown under glass, more especially when the atmosphere is allowed to become over-hot and dry. Use tepid water when spraying or watering the young plants. They enjoy a temperature at this time of from 60° to 65°. We find Canadian Wonder and Sutton's Superlative two of the most reliable varieties for early work.

Tomatoes.—Seed of an approved free-setting variety should now be sown or early growth. And as only a limited number are generally grown for this crop, a small sowing should suffice. Sow in a light compost, placing a piece of glass over the seed pan till germination takes place. Take care that the seedlings are not subjected to draughts or sprayed with water of too low a temperature. Sutton's Earliest of All is a reliable sort for sowing now, the fruits are of medium size and of fine flavour.

Cauliflowers.—A sowing of Early London should be made in boxes to provide a succession or to supplement batches that have been wintered in frames. Immediately the seedlings appear, place the box on a shelf near the glass and guard against damping.

Fruit Under Glass.

The Early Vinery.—Early Vines may now be started into growth, but little fire-heat should be allowed for the first two or three weeks. Keep a regular temperature, gradually increasing it as the buds break. Guard against high temperatures, as the consequences are generally weak wood and foliage that are unable to ward off the attacks of the various insect pests with which we are all more or less familiar.

Peaches.—Discretion must be used when ventilating and syringing the early house, more especially now that artificial heat is being admitted more freely. Should the weather prove dull, the damping of the paths will suffice. When the sun-heat causes the temperature to rise to about 65° air should be admitted, but the house must be closed down immediately any fall of the mercury takes place.

The Flower Garden.

Antirrhinums.—Seed of these delightful plants should be sown now so that strong, well grown plants may be had for planting out early in May. Sow thinly in boxes of light porous soil and place them in a genial, but not too high temperature. Keep the boxes covered with glass until germination takes place, when the covering may be gradually removed. Extreme care must be taken when watering as the seedlings damp off readily should there be excess of moisture.

Pentstemons may be sown and treated in like manner to that advised for Antirrhinums. Grown from seed in this way Pentstemons make strong plants and give a bright display during late summer and autumn.

Border Carnations in Frames.—Where circumstances compel growers to winter their plants in frames they should be looked over occasionally and all diseased or withered foliage picked off. Do not allow the soil in the pots to become dry. Ventilate the frames freely at all times unless very severe weather prevails. Give the surface of the soil in the pots a light dusting of soot so that the ravages of slugs may be checked.

Herbaceous Phloxes.—Should the transplanting of these fine perennials be contemplated, the work may be carried through during the first favourable spell of fine weather. Comprising as they do a wide range of exquisite colours and varying in height from 2ft. to 6ft., they are of inestimable value for the autumn border. The plants thrive well in most garden soils that have been deeply dug and well manured, the exception being hot gravelly soils, as they are noticeably partial to a cool root run. Should additional varieties be thought of they might include Tapis Blanc, white; Mrs. Oliver, salmon pink; Selma, soft pink; G. A. Ströblheim, orange scarlet; Cœur de Lion, rose, and Antonin Mercie, rosy lilac.

JAMES McGRAN.

(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock.

CONSERVATORY AND GREENHOUSE.

Hippeastrums.—Introduce a batch of good strong bulbs into a house with a temperature of 55° to 60°, and if they can be given some bottom-heat it is an advantage at this time. For early work use bulbs that were repotted last year and are thus in good condition at the root. There being no root disturbance, they will start more quickly, and such plants always give a certain amount of foliage along with the flowers. The plants should first be given a thorough soaking of tepid water to moisten the dry ball of soil; then remove some of the surface soil and examine the crown of the bulbs for mealy bug, which is a great pest and difficult to eradicate if it once gains a footing in a batch of plants. When the plants are in flower they may be removed to a warm greenhouse or may be cut for decorative purposes. The top soil which was removed should be replaced by a light rich compost to which some fine bone-meal should be added. Plants that require repotting should be shaken out and thoroughly cleaned, removing all decayed roots as well as all decaying matter at the base of the bulb. Examine for mealy bug and repot into a compost of good medium loam to which a little well decayed leaf-soil and enough coarse sand should be added to render the whole porous. To every bushel of soil a 6in. potful of fine bone-meal should be added. Newly repotted plants should receive very little water at the root until they make fresh roots and some top growth. This is a safe rule to follow with all newly repotted bulbous plants. Hippeastrums are by no means such difficult plants to grow as many people imagine. Later on I hope to deal in detail with the cultivation from seedling up to their flowering stage.

Rhodochiton volubile is a very beautiful greenhouse flowering climber that can be flowered the first season from seed sown any time during this month. The thin, flat seeds should be very lightly covered, or else they are apt to decay; they germinate readily in a temperature of 55°. They should be potted on until they are in 8in. pots, in which they should flower with great profusion during the summer and autumn. They should be stood on the stages and trained up under the roof glass; they are self-supporting by means of the leaf petioles, either on wires or string. If they can be planted out in a greenhouse or conservatory, they make very fine specimens in their second year.

Grevillea robusta is a popular and graceful plant for conservatory and house decoration, and seed should be sown at this time. It is an easily grown plant, yet many cultivators fail to raise it successfully and one frequently hears complaints about bad seed, whereas the failure is generally due to sowing the seeds flat, when they are very apt to decay. The thin, flat seeds should be set on edge and pressed gently into the soil. By this means they generally germinate well. Apart from its decorative value, young plants make a splendid stock for grafting some of the choice and beautiful flowering Grevilleas on, as most of them are difficult and slow of increase by means of cuttings.

Cyclamen sown last autumn and which were pricked off and have stood in seed-pans or shallow boxes all the winter should now be ready for potting off into "thumbs," using a fine rich compost for them, to which should be added some old mortar rubble crushed fine. They should be stood on a shelf well up to the roof glass. They enjoy moist atmospheric conditions at all times, and at this stage of their cultivation should be given an intermediate temperature of 50° to 55°.

Solanum capsicastrum, with its profusion of orange scarlet fruits, is very popular for the autumn and winter decoration of conservatories.

Plants can be raised at this time either from seeds or cuttings, and if carefully attended to will make good plants by the autumn. The young plants should be brought on in a warm greenhouse, and later on may be transferred to cold frames. During the summer they should be stood on an ash bottom in the open, or they may be planted out for the summer, in which case they will require less attention as regards watering. Whatever method of cultivation is adopted, they should be pinched occasionally to induce a bushy habit of growth. They are somewhat subject to attacks of red spider, so should be kept well syringed, especially during spells of hot, dry weather.

Ardisia crenata is another greenhouse plant the seed of which should be sown at this time, or it may be propagated by means of cuttings. This plant bears a profusion of small dark red berries, which remain perfectly fresh on the plant for at least nine months. Unlike the *Solanum*, this plant is of slow growth, taking three years before it reaches a suitable size; thus, to keep a yearly succession a batch of plants should be raised every year. The seed is hard and takes a long time to germinate. This can be hastened, however, by soaking the seeds for twelve hours in warm water. During its growing period this plant should be given an intermediate temperature. When it has attained flowering and fruiting size it will stand in a cool greenhouse and make a good lasting subject for house decoration.

J. COURTS.

Royal Botanic Gardens, Kew.

FORTHCOMING EVENTS.

January 26.—Gardeners' Royal Benevolent Institution, Annual Meeting and Election at Simpson's Restaurant, Strand, London.

January 31.—Royal Horticultural Society's Fortnightly Meeting.

January 31.—National Dahlia Society's Annual General Meeting at the Royal Horticultural Society's Hall at 3 p.m.

The International Bureau for Registration of Novelties.

The Chamber of Horticulture has been requested to announce that all preparations for the above are now complete, and that the Bureau is ready to commence registration. The following particulars have been supplied and should be noted: 1. That the International Bureau for Registration of Horticultural Novelties, founded by the Federation Horticole Professionnelle Internationale, will commence on January 1, 1922, with the object of protecting the raisers of new plants, as to (a) prior right of raising; (b) ownership of name chosen; (c) possibility of claiming both; and also (d) adequate advertisement to make the novelty known to the horticultural world. 2. That official forms necessary for declarations will be addressed to raisers on receipt of demand accompanied by the amount of the registration fee, which is 10fr., plus, if desired, the amount necessary to cover the cost of supplementary declarations, at the rate of 5fr. a line of forty letters, signs or intervals. 3. That official forms can only be obtained from the Bureau Agent, M. L. Sauvage, 6, Rue du Débarcadere, Paris 17. 4. That cheques and money orders be made payable to M. Sauvage. 5. That, on demand, raisers will receive, without charge, a small booklet containing the Rules of the Bureau and all particulars concerning the keeping of the various registers, confirming the rights of the declarers, and providing for the establishment of International legislation on this subject in due course. The Chamber will be pleased to issue further information on the above from time to time.

Answers to Correspondents

NAMES OF FRUIT.—W. R. J.—Aprles; 1, Manks Codlin; 2, Old Peasgood; 3, King of Tomkins County; 4, Roundway Magnum Bonum.—Hon. Mrs. Sandbach.—Apple Tower of Glamis.

NAME OF PLANT.—Quebec.—*Statice sinuata*. *Campánula Raddeana* is a perennial and listed by most hardy plantsmen. Seed could probably be obtained from Messrs. Thompson and Morgan, Ipswich.

ORCHARD

GARDEN

WOODLAND

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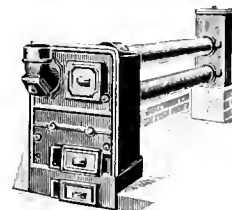
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Always at this season of the year, the Editor is being bombarded with enquiries relative to the seed-order which is to many amateurs one of the events of the gardening year. Even to the most blasé of professional gardeners there is a never-failing pleasure in perusing a good seed catalogue and selecting varieties not only for the actual order in hand but for trial some other time. Many of the sorts so marked never get ordered in reality, but the anticipatory pleasure is there just the same! Realising, then, the importance of this, the principal seed-order of the year, we have during the past six weeks given many suggestions as to what persons of varying temperament might well include in the seed list. The time for such hints is fast passing, however, as such seeds as those of Parsnip and Broad Bean should soon be in the ground—supposing, of course, that reliance is not here placed on autumn sowings. Bearing this fact in mind, it seems fitting that next week's issue should be largely devoted to further consideration of some of the many aspects of the seed-order.

The Proposed National Daffodil Society.—Time draws on, and very shortly the National Daffodil Society will either be a society in being or a memory of the might-have-been. While there have been expressed in our columns naturally divergent opinions as to ways and means—a healthy sign, since it betokens interest—only one voice has been lifted up in real opposition to the creation of an independent National Society. That voice is, it is true, the voice of one whose opinion must needs carry weight in the Daffodil-lover's world. Still, the opinion of one, however eminent, cannot weigh down the matured judgments of so many, especially when among the great majority may, as here, be numbered some also deservedly esteemed by those interested in Wales' national flower.

A Vast Difference.—It is incumbent upon everyone, whatever his walk in life, always to visualise to the utmost of his power the position and standpoint of those whose views fail to coincide with his own. Should he bring to the question at issue all his

ability and judgment and, unbiassed by preconceived opinions, re-weigh things fairly, it will sometimes happen that he finds his own original view-point a mistaken one. It has been well said that the man who never changes his mind has no mind to change! Even where investigation but confirms one's opinion, one's opponent must have indeed a poor case if he can illuminate no dark corners with his arguments. In his letter in last week's issue the Rev. G. H. Engleheart recapitulates Mr. Jacob's summary of the essential duties of the new society with what he describes as "very obvious comments." Very obvious they are, indeed, and, like most obvious comments, fallacious, for here there is a confusion of thought. Mr. Jacob summarised the duties which the society would have to undertake. Mr. Engleheart assumes that the undertaking of these duties is the society's *raison d'être*. Such is not in fact the case. Were there an efficient Metropolitan Society which did for the Narcissus in London what the Midland Society does in its own territory, there would not now be an agitation—the promoters will not quarrel with Mr. Engleheart's word—to form a National Society. It is because many lovers of the Daffodil feel that the London exhibitions of their favourite flower should no longer be dependent upon what they consider the lukewarm interest of the Royal

Horticultural Society that they are agitating for a National Society. It is not the yearly programme which needs radical alteration, but the way in which that programme is carried out.

Rumination!—These things notwithstanding, the supporters of the new society will do well to ponder Mr. Engleheart's reference to the comparative popularity of the Daffodil and the Sweet Pea and the reasons therefor. They would do well to chew upon this—that if the Daffodil shows are to be popularised, the difficulty raised must be overcome. Popularity can only come with popular attractions. It is true that the newest varieties can make but a limited appeal, their price being too heavy for the light purses so prevalent to-day. Comparatively few amateurs, however, purchase the newest Roses, yet the Rose shows are always a success, and the novelties are always difficult to see because of the press of people who like to see what progress is being made. It may be said that many of them are selecting Roses for purchase a year or two hence. It seems improbable! Before that time comes much more information will be available as to their behaviour and ease of cultivation. It is the so-called decorative classes which have made the Rose a popular exhibition flower, and it will be decorative classes that, given the opportunity, will do the same



PLANTERS SHOULD NOT OVERLOOK THAT BEAUTIFUL BRAMBLE, RUBUS DELICIOSUS.

for the Daffodil. The trade, after all, still sell bulbs of the older varieties. Why not exhibit these varieties decoratively in order to make a definite appeal to the "man in the street"? Why could not there be a class for bulbs arranged in turf—moss might be utilised to represent the turf at the discretion of the exhibitor—as naturally as possible, varieties only being employed which are moderate in price and which succeed under turf? Again, could not there be a class for them arranged on rock-work, with, of course, a suitable interplanting of rock plants? Floral designs and table decorations are more obvious ideas. Such exhibits would do wonders towards popularising the shows and, because appetite grows by what it feeds on, would do much to foster interest in the purely florists' varieties Daffodil enthusiasts love so well.

TWO NORFOLK GARDENS

The altered conditions which have prevailed since the war have adversely affected the upkeep of many stately and spacious gardens. Below is given a brief description of two such still in good order.

A FEW notes on Norfolk gardens may be of interest, as nothing has, to my knowledge, been written of them lately for THE GARDEN. These gardens all belong to the older family estates, now so rapidly passing either to new owners or to the builder. I will first deal with Blickling Hall, where the estate is still entire. It belongs to the Marquess of Lothian, but is now let to an American.

It is, considering the shortness of labour, wonderfully kept up. Indeed, one would hardly believe it possible to keep grass edges and walks so neat and the gravel paths so clean, to say nothing of those other details in a garden which usually point first to want of labour.

This beautiful Tudor mansion, a few miles from Aylsham, lies in well wooded country. It was the home of Anne Boleyn. Mr. Oclée, who has been head gardener there for over fifty years, was good enough to show me round. There is but a moderate amount of glass. The wall fruit, however, is in splendid condition and really excellent crops are obtained. The moat round the Hall has been filled in and turfed. The herbaceous garden is very good; indeed, the flower gardens generally are admitted to be the best in Norfolk. They were greatly admired by Queen Alexandra on an occasion when she paid a surprise visit.

A remarkable feature at Blickling is a Plane tree (*Platanus occidentalis*) on the lawn, the branches of which give the effect of having layered themselves; it is of natural growth, and the branches extend 23yds. from tip to trunk. In spring the ground beneath this tree is covered with Primroses, both wild and coloured. The tree, which is of no great height, is of unknown age.

Azaleas do splendidly, despite the bleakness of the climate. The soil is, however, on the light side and naturally warm. A large bed of

Azaleas, exposed to all the north wind that blows, never suffers; in fact, in no part of the grounds has there been loss of them from exposure to cold winds and frost. Lilies do not flourish, though at Westwick, not many miles away, they do well. A few bulbs of *Habranthus pratensis*, planted at the bottom of a south wall, have now



BLICKLING HALL. THE DRY MOAT.

quite filled the available space, though no special care was taken with them. This seems, none the less, a difficult plant to establish in some places.

The park, with its herd of deer, is magnificent; no brand-new grounds can show the stately beauty or produce the atmosphere of peace and harmony which cling to these century-old estates.

The last Lady Lothian, who was a widow for thirty years, devoted her widowhood to Blickling and its people. She was much beloved.

At Gunton Park the surrounding land has been sold, but the house and park are still owned by Lord Suffield, who resides there entirely.

Here one is nearer the coast, Cromer being only seven miles or so away. The drive through the park was, at the time of my visit, perfect with glorious autumn tints. A clearance of shrubbery near the house has here been effected to open up a view of the lake, which is a fine stretch of water. The wood on its further slopes has, near the lake, been planted for colour effect, and the planting could hardly have been improved.

The rose garden at Gunton Park is one of the best planned I have seen. One wing of the house was destroyed by fire; only the outer walls now remain. Gunton is noted chiefly for its fruit, and in the large, well appointed fruit room I saw many varieties of Apples and Pears, all well grown.

At Gunton, as at Blickling and a few other places, I was amazed at the order shown. These large old gardens were planned in a day when labour was cheap; but one can tell with certainty the places where the head is not only a good gardener, but a particularly able organiser, with the consequent effect on the staff. One cannot but think that employers do not sufficiently realise this. I have seen at least one place (not in Norfolk) with twice the staff that Blickling had, where the condition of the wall fruit trees was appalling, and there seemed but little order or neatness anywhere. The war was, it is to be feared, a great excuse for many incompetents.

B. G.

THE SPRING O' THE YEAR

I BELIEVE that, officially, spring begins on Equinox day, March 21, when the sun enters Aries, and for my part I have no wish to dispute the official view of the seasons. Though I should have thought, had astronomy been allowed to decide the point, that the dead or winter season ought to extend to an equal distance (of six weeks) on the further and on the hither side of the winter solstice, or shortest day, December 21—that is to say that if the seasons are held to depend on the various positions of the sun in its orbit, winter ought to begin about November 7 and end about January 31, in which case our first spring day would be February 1. However, I have no wish to argue this, as if it were a matter in dispute, since there is little profit in disputing what is official. But clearly there are various springs. There is, as I have said, the official or purely bureaucratic spring, and there is the cosmogonic or solar spring; but there is also the psychic spring that one "feels in one's bones," which, for myself personally, as for other creatures of instinct, like thrushes and Crows, is really the only spring that matters. Unfortunately, the spring of one's bones is indeterminate as to the dates of its beginning and ending. You feel it, which of course is final, since no wise person would attempt to reason with feeling. But you do not feel it on the same date every year. Speaking for myself, and for no one else, of course, my own soul and bones usually respond to vernal influences on or about

February 1, such response thus squaring, curiously enough, with the cosmic indications of such heavenly bodies and constellations as the sun and the signs of the Zodiac.

Now, as it happened, those various spontaneous stirrings and impulses which concur to make this "spring feeling" converged this year, not on February 1, as might have been expected, but on the ridiculously early date of January 9. Not that the 9th was by any means an ideal day as regards weather. There was little sunshine; indeed, I cannot remember that there was any. The sky was grey, and the air was moist and "muggy." The wind was brisk, at times even boisterous, but (and here lies the crucial fact that explains so much) it was a west wind. A west wind, you will observe, which of all the winds is the most bland, as the east is the most pernicious. The "breath of autumn's being" this wind is styled by Shelley, who pictures it, if I rightly remember, as piping a funeral pibroch to the dead leaves, "yellow and black and pale and hectic red." But poets, as we know, have too often the disingenuous habit of twisting the facts of Nature to the purpose of the moment. Not that I wish to quarrel with the disingenuousness of poets—it is part of their stock in trade. A poet gives either half a truth or a truth and a half, and if he stated just the truth, neither more nor less, would be esteemed but a poor stick. The west wind may be the breath of autumn's being. I do not say that it is not. I dare say it is. But it is the very life-blood that flows through the veins (or, to be quite exact, through the arteries) of spring, of which vital fact Shelley says nothing—a clear instance of *suppressio veri*. Now on January 9 the west wind was flowing through the system of Nature in a full and brimming tide, of which there were various sufficiently convincing signs, though for my part I required nothing more convincing than the sight of neighbour Snow's superannated hack, Jenny, careering in the church meadow and kicking up her heels in a fine frenzy. "Jenny knows," thought I, "Jenny feels it," and, but for certain physical disabilities, I would have kicked up my own in sympathy. It was, in short, a resurrection trump, that blast of the west wind, stirring the living juices in dead flowers and birds long silent. Flowers? I have been gathering *Iris stylosa* and Christmas Roses all the winter, but, though they certainly made the winter more bearable, it never occurred to me that winter was any the less surely winter because they were there.

It was, however, another guess matter when, on the morning of the 9th, a Crocus (purple-striped and fawn outside, veined mauve within—*Crocus Imperati*, I believe) emerged as through a trapdoor on the gravel walk. That was surely spring and nothing else. There was also a Snow-drop or two of the *Elwesii* breed; but Snowdrops are an excitable and uncertain race that may appear at Christmas, long before the west wind has given the signal. Again, there are the birds. Why should a thrush select January 9th to perch on my old Blenheim Orange and deafen the neighbourhood with his din until it was too dark to sing?

Had it been a robin that warbled his little ditty I would have associated the sound with the winter season as readily as I would an icicle. But though occasional thrush notes may be heard in suitable winter weather, a daylong, gala performance from the top of a Blenheim Orange is a different matter, and requires an explanation of its own. Other notes heard on the 9th, though not normally due till February, were the "fink, fink" of the chaffinch and the warble of the hedgeparrot.

SOMERS.

COMMENCING A ROCK GARDEN

THE rock-loving plants that yield the greatest measure of success with amateurs are notably sunlovers, and it is to this section that the beginner can turn with every confidence, their main characteristics being that they are perfectly reliable, generous in flowering, unquestionably hardy and not costly to procure. In small gardens, and with the plants I am going to name, there is

I have come across. *Erysimum pulchellum* is a pretty, flat evergreen with flowers of gold, very freely produced during April and May. *Cheiranthus Allionii* should be placed close to the last named, as the striking orange of its flowers shows to distinct advantage against the gold of *Erysimum*.

Phloxes, like *amoena* and reptans for early flowering, and the forms of *subulata* for a later

display, give a wide range of colours from white to deep rose, while there are several with flowers of a delicate lavender shade, such as *G. F. Wilson* (*lilacina*).

Androsace sarmentosa is one of the best and certainly the easiest to grow of this beautiful group; it throws out delicate runners like a Strawberry plant, and if these are pegged down and nice gritty soil placed under the little plants they soon root and take up an independent existence.

Dianthus is a genus to conjure with; try a good strain of seed of *D. plumarius* and plant the seedlings in dry-wall, rock garden or sharp-pitched slope and the feast of colour will be a revelation. Among the species that I recommend for a maiden effort are *cæsius*, *deltoides* or *graniticus*, *neglectus*, *alpinus*, *arenarius* and *microlepis*.

Campanulas are important and should include *G. F. Wilson*, *pusilla*, in three colours, and *muralis* for early summer, and *Profusion*, *haylodgensis* and varieties of *carpatica* to flower later.

Gypsophila repens (white or pink) and *Saponaria ocyroides* (rose) with its variety *splendens* (crimson) are glorious plants to drape over the face of a rock, and the flowers are massed in



A PLEASING ROCK GARDEN PICTURE, THE IDEA OF WHICH COULD BE INTRODUCED IN QUITE A SMALL GARDEN.

never the same urgency to employ each kind in masses, although a few of the most effective should always be given this prominence; the majority, however, in time swell out and form a mass in themselves.

No rock garden should overlook the merits of *Arabis alba* fl.-pl., *Aubrietias*, all varieties, and *Alyssum saxatile* and its variety *citrinum* and also the double form, their only drawback being that they are too common and, if I may say so, too easy to grow. Nevertheless, they are the glory of the rock garden and dry-wall in spring, and their perennial and prodigal wealth of Hossain will always command admiration and win for them a place of honour in our gardens.

The perennial Candytufts (*Iberis*) become perfect snowdrifts when in flower; Little Gem, Snowflake and *correaifolia* are three of the best

such a way as almost hides the foliage from view.

Several of the *Hypericums*, with their Rose of Sharon flowers, are among the best of rock plants. *Coris* forms neat, erect, heath-like bushes, whereas *repens* and *reptans* are prostrate in growth; the flowers in each instance are yellow and the centres are quite filled up with the elegant filaments of the anthers.

I am of opinion that every rock gardener should attempt to grow *Lithospermum prostratum* and its variety *Heavenly Blue*. At first effort you may possibly fail; nevertheless try again, and ultimately succeed, for the Gromwell (*Lithospermum*) blue is in this instance faultless. Plant them very firmly indeed, for they are really hard-wooded shrubs, although so dwarf, and if the natural soil be limestone or chalk, remove it and replace with soil free from lime.



PLANTS IN THE MORAINE.

Running water at the depth of a foot or so is essential to a true moraine, but many Alpines flourish in a compost largely consisting of stone even without this advantage.

Lychnis Viscaria splendens and *Oenothera riparia* are useful and effective plants; the flower stems are borne erect, and this is of some value when placed among flat-growing plants. Many of the silver *Saxifragas* are useful in the same direction; those I specially mention for beginners are *Aizoon rosea*, *A. notata* and *A. La Graveana*,

Cotyledon pyramidalis, *Hostii*, *lingulata lantoscana* and *Macnabiana*.

Tunica Saxifraga and *Silene alpestris* are very dainty for a crevice between stones; and *Thymus Serpyllum* (especially the varieties *coccinea* and *alba*) and *T. lanuginosa* are charming for their scent and flowers. T. SMITH.

GARDEN ECONOMIES

Plant Dwarf Peas

Not everyone will agree with the writer's sweeping condemnation of the taller Peas. In wet summers, especially, they prove their worth, but there is, none the less, much truth in the arguments brought forward.

IT behoves any garden owner and employer of highly paid labour to do the very utmost to ensure two objects—to lessen the cost of production and to increase the output. In gardening there are many details that can be thus treated; not the least important among them is the production of green Peas.

The Dwarf Pea has been brought to such perfection that the yield in size of pod and Pea is equal to that of almost any of the tall varieties, with one possible exception in the show bench Pea. Dwarf Peas can be produced at little more than half the cost of the tall varieties. In fact, yield for yield, with dwarf or tall Peas over the same area of land, the comparison is in favour of the "dwarfs."

Let us see how it is done. Tall garden Peas need planting from 4ft. to 6ft. apart in the rows, require sticks from 4ft. to 6ft. high, entail the expense of purchasing the sticks and the labour of sticking the rows, both expensive and unnecessary.

Dwarf Peas need only from 18ins. to 24ins. between the rows, and after planting and hoeing, need no labour at all until the crop is gathered, no sticks, no labour in sticking, and later in

removing the fence-like hedge of sticks for storage. Let any garden lover try them. Compare six rows of Dwarf Peas of 12ins. to 18ins. in height against two rows of tall Peas of 5ft. to 6ft. and I am sure the result will astonish him, while for table use and for market the Dwarf Pea yields no points to its tall brother.

There are two or three varieties, among a host of other good sorts offered by seedsmen, that are particularly useful—good sturdy growers, magnificent croppers and splendid cookers. They are Peter Pan (18ins.) and Sutton's Little Marvel (15ins.), both Marrowfat Peas, big of pod, big of pea, colour and flavour unexcelled. Then we have that wonderful Pea Witham Wonder, and it is a wonder! The plant itself is not so robust as the two previously mentioned varieties or the pod quite so large, but the yield and quality more than make up for these deficiencies. The plants are loaded with medium-sized fat pods that simply burst with the contents packed closely together, while the pods themselves are thin in texture, so that the yield in shelled Peas is very much greater than from many tall varieties with big fleshy, half-empty pods, however big the individual Peas in the pod may be.

Dwarf Peas can be grown in succession equally as well as the taller kinds; in fact, here again the economy in production is in their favour. A few rows planted at intervals of about a fortnight from March to June, and in most soils even in July, will give a continuous supply all the summer months, with no care or thought as to expense of sticks or labour of sticking, and they need much less water.

Let me give the intending planter of Dwarf Peas one or two tips for the production of the best results, although these tips apply equally well to all and any kind of Pea, even to Sweet Peas grown for bloom or seed.

Make your trenches not more than 2ins. deep, the width of a narrow draw hoe. If possible, leave them open to the air and sunshine for twenty-four to forty-eight hours; it is not absolutely essential, but helps the future crops. Do not dig in a lot of manure of any kind, Peas do not need it on good garden soil. Instead mix basic slag of good quality (28 to 30 per cent.) with twice its bulk of ashes from a rubbish fire and dust this mixture down the open rows, a good handful to the yard run of rows. Plant the Peas singly in the rows 2ins. from Pea to Pea in any direction—half a pint of Peas will plant 20yds. of row. Never plant too thickly, rather err the other way. Put your Pea seed into a tin, add half a teaspoonful of red lead in powder and a teaspoonful of common paraffin and shake well—plant and cover immediately.

When the Peas come through the surface, if birds or other destructive influence be at work, spray the rows with lime-sulphur fluid from an ordinary spraying machine as used for fruit trees, using a strength of one part lime-sulphur fluid to eighteen to twenty parts of water. This dressing is not only protective to ward off the attacks of birds and insects, but is beneficial to the plant itself as destroying all germs of mildew. Hoe the rows, not up and down the row as is usually done, but across the rows, drawing the soil towards the plants and not away from them. Nothing more is needed until the crop is gathered, no purchase of expensive sticks, no heavy labour charges in sticking, no treading down the soil between the rows in the process of sticking, no waste of time in clearing and storing the sticks after the crop is over.

The rows of Dwarf Peas can be pulled off quite easily after the crop, the land hoed over, and it is ready for the crop of winter Broccoli, Kale, Savoy, Cabbage or what not; for the Brassica tribe always do well after Peas owing to the habit of the Pea to store nitrogen in the soil round its roots.

Try Dwarf Peas and you will never waste money on Pea-sticks again, but do not forget to plant the seed thickly. S. WARNER HAGEN.

On Making the Greenhouse Profitable

Peach and Nectarine Trees in Pots.

FOR those owners of gardens whose glass-house accommodation is limited and who wish to have a few choice Peaches and Nectarines the cultivation of the trees in pots is to be recommended. The chief advantage of this form of culture is that the trees can be placed outdoors when the fruits have been gathered and the house utilised for growing *Chrysanthemums* and other plants during the winter months.

The Importance of Harmony in Planting

The writer appeals for the more effective massing of suitable plants rather than the heterogeneous medley too often seen.

Where ripe fruits are desired in June, the trees should be placed in the house at once, but no fire-heat should be applied for the first fortnight. If the temperature of the house should reach 55° by solar heat, the top ventilators must be opened a little at midday, closing them early and at the same time damping the walls and paths.

When the trees have been indoors a fortnight, a night temperature of 50° should be maintained, allowing for a rise of 5° during the day. During the flowering period a drier atmosphere with a free circulation of air is necessary for obtaining a good set of fruits. The flowers must be carefully pollinated with a rabbit's tail to ensure fertilisation.

As soon as the fruits have set, disbudding of the young shoots must be attended to, taking care not to leave them too thick in the centre of the trees; at a later stage these shoots will require stopping. Shoots starting from the base of the fruit-bearing wood should be encouraged and may be pinched at the eighth pair of leaves and other shoots at the fourth pair of leaves, always taking the points out of the stronger growing shoots first.

As soon as the fruits are as large as marbles, they should be thinned. The temperature from now until the stoning period is over should be 55° at night and 60° by day, with a little top ventilation whenever the weather is favourable.

When stoning is completed, which will be about twelve weeks from housing the trees, the fruits should receive their final thinning. Young trees in pots 10ins. to 12ins. in diameter will carry twelve to eighteen fruits; older trees in pots 18ins. in diameter will carry three to four dozen good fruits. The trees will now benefit from a light top-dressing of equal parts good loam and horse droppings, adding an 8in. pot of bonemeal to each barrow-load of compost.

Cultural details from now until the fruits commence ripening consist of giving the trees ample supplies of water at the root and frequent applications of diluted liquid cow-manure with a light sprinkling of Le Fruitier on the soil once a week. The trees should be forcibly syringed twice daily, finishing in the early afternoon to allow the foliage to dry before night. Should aphids or red spider attack the trees, the house should be lightly fumigated.

When the fruits commence ripening syringing must cease and the ventilators (both top and bottom) remain open by night and day, as the admission of fresh air improves both the colour and the flavour of the fruits.

After the fruits are gathered the trees must not be neglected, but kept well watered and fed to ripen up the wood for producing the following season's crop.

About the middle of September the trees should either be repotted or top-dressed, using a compost of five parts loam, one part lime rubble and wood ashes, with a sprinkling of bone-meal.

After potting, place the trees in their winter quarters, where they can either be plunged to their rims in ashes or covered with bracken to prevent the pots being damaged by frost.

Reliable varieties of Peaches are Stirling Castle, Dymond, Peregrine, Royal George, Kestrel, Crimson Galande. Nectarines: Cardinal, Early Rivers, Elruge, Pine Apple and Humboldt. Trees treated as I have recommended will continue to give good returns for a number of years. Some in my charge are nearly twenty years old and annually produce good crops of fine fruit. Apple, Pear, Plum and Cherry trees may be grown in a similar manner, although somewhat cooler treatment is better for them, and the end of February is early enough for housing the trees. C. H. W.

AN article in THE GARDEN of January 14 emphasises the importance of contrast in the planting of trees and shrubs. I should like to add that "harmony" in such planting is even more important and much less commonly achieved. I feel sure the writer of the article would agree that the "mixed shrubbery" is, in at least eight cases out of ten, dull and without character, and that this is due not to lack of diversity but to the excess of it. There are too many "contrasts," not too few, so that the total effect of the mixture is merely monotonous.

I have in mind a large garden mostly consisting of shrubbery where all the old dodges, such as the backing of Acer Negundo with Purple Beech or Plum, and the introduction of upright conifers among shrubs of contrasting habit, had been employed *ad nauseam*. The result was not stimulating, it was simply dull. There was space enough to have planted a whole grove of snowy Mespilus, a secret garden of Persian Lilac, a valleyfull of Rosa polyantha Thunbergi or Berberis vulgaris. Those would be features one would remember when one came away; of the mixture one remembers hardly anything.

The trouble is due partly, I think, to insensitiveness to what is incongruous, partly to the desire to get in as many different sorts as possible. Examples of insensitiveness—not to say blindness—can be seen in most of the gardens beside the roads around London. Everywhere Prunus Pissardi can be found being made to do its dreary old trick of supplying contrast, usually to Acer Negundo, Laburnum and pink May. (It is a

solitary exotic-looking clump of Bamboo. Or, worst of all, mixed up with the exquisite yellow-green of young Beech leaves one finds some incongruous Spruce or a blue Cedar.

In the article I have referred to, dwarf Junipers are recommended as "particularly useful for the contrast they afford to shrubs of more usual habit." I cannot help thinking, however, that it would be a mistaken use of this advice if the reader were to associate Junipers with most of the commoner flowering shrubs, such as Philadelphuses, Deutzias, Weigelas and the like. On a half-wild bank or in a rocky or moorland place, or in suitable woodland, Junipers can look congruous and delightful, especially as a foil to the shadowed greyish rose of Heaths such as Erica darleyensis. But as a contrast to most shrubs they would generally look out of place.

The desire to get in as many sorts as possible into a limited space is, of course, inevitable for every gardener; but unless the desire is kept severely in order it will ruin the appearance of every garden, save from a botanical point of view. Restraint, economy of means, is just as essential in garden planting as in painting or in cookery. As a painter I find that when I see a planting of shrubs I generally want to sort out the ingredients and to simplify, always to simplify. Even the illustration to the article I have quoted, "A well arranged shrubbery border," seems not broad enough in treatment. It is unwise to generalise on such a subject, but perhaps one may safely say that as a general rule the grouping of similar shrubs should predominate over the groupings of dissimilar ones. If one spends one's care on



EFFECTIVE HERBACEOUS PLANTING. BOLDLY CONCEIVED AND HARMONIOUSLY ARRANGED.

most difficult plant to use well, but can be invaluable if kept rather apart with suitable company, such as Bocconia or Clematis montana rubens and the purple-leaved Weigela rosea, or with grey-blue flowers such as Echinops and Eryngium.) Golden Elder and other so-called golden shrubs are used with dreadful frequency for giving contrast. In the company of homely old friends such as Hawthorn and Ribes one comes across a

bringing together those shrubs which have grey leaves of congruous form and colour, one is much more likely to achieve a beautiful result than if one sets out deliberately to oppose a grey leaf to a bright green one. Santolina and Olearia stelulata, Rosa rubrifolia and Sea Buckthorn, Lavender and Perowskia—if one begins with a few simple associations of similar colours such as these, one has a foundation on to which the more

exciting colours can be added with full effect. (Red Valerian, for instance, would warm up the Olearias, Tiger Lilies and Clematis Flammula would help the Buckthorns.) If the whole framework of a piece of shrubbery consists of Sweet Bay, Arbutus and Laurustinus, the elements that may be added—*Kerria japonica* fl. pl., or *Philadelphus Norma*, or whatever they may be—will stand a much better chance of making a memorable effect than if they had had to

compete with the miscellaneous "contrasts" of a mixed shrubbery.

It would be a dull garden that had no contrasts—where nothing so bright as an orange Lily was ever allowed near a pure blue Delphinium, where all the colours were kept muted like the pink of *Dictamnus*, and where everything grew exactly according to a plan. But the search for contrasts can easily be overdone, with a result that is not stimulating but monotonous. A PAINTER.

come to us new and pure with each passing day. Emblems they still remain, of every charm the world contains, and the fairest of all its products. Throughout all poetry, romance or mythology there exists no standard of beauty higher than that of flowers and no symbol that has been so frequently employed throughout the ages. And so after the day of strife the garden becomes our rest and entertainment—"Not in the busy world, nor quite beyond it"

Again, the immutable years move on, and the impulses, ambitions and dreams of youth are gone, and their place is taken by the memories, regrets and reminiscences of the days that are no more. Friends we have known, some dear to us, some that, like ships at sea, speak and pass on their way, and some that were intimate parts of our lives and ourselves. Still, to us the garden shall remain a harbour of refuge—its "smooth alleys for aged feet," its sunny, sheltered resting places when the spring or autumn air is cool, and the deepening shadows in its leafy shades, or as the summer sun sinks low, shall have each their turn in our desires. More than ever, then, it will become our garden of memories. Each subtle fragrance diffused on the still evening air will have its power over our senses and transport us back along the river of time to the days of long ago. Nothing is so potent to recall the episodes of the past as the odours of a garden, and though you walk in the busiest mart of the busiest city of the world the breath of Lily of the Valley, Violet or Wild Rose will call up before your eyes a panorama of events in which you played your part. And is not the cry of humanity: "From battle and murder and sudden death deliver us," so that when our feet can no longer falter along the well-worn paths, and we leave for ever the bowers and pleasaunces, we may find our rest at last in God's Acre of garden.

Is there, then, anything absurd in the plea for a garden of memories? A garden wherein each plant or tree or shrub shall be a record of some event, either in our own lives or in the lives of our friends. In it many, many things we love for their own sakes would have a place. There would, of course, be Rosemary for remembrance of one who went forth to fight the battles of the world, and of whom nothing is left to us but—a memory. Forget-me-not for those whom duty called to the uttermost ends of the earth and who throughout the long years have left with us nothing but a memory of all they were to us. Traveller's Joy would indicate the visit of one who came, and for a brief space filled our lives with his presence and went on his way. Purging Thorn would record the time when we had fallen short in the call of friendship, and one we wished to keep within our own circle had ceased to be, and we knew it was because we had not come up to the exalted standard of hospitality or friendship demanded. Heart's Ease for the day when we laid to rest that tiny fragment of humanity whom we knew as Goldilocks. Passion Flower would record the great event in the life of our youth. Jasmine would be there because it was while its odour filled the midnight air we leaned from our window and thought of the triumph of the day that had gone. Musk, because its perfume would remind us of that evening when something happened that turned the course of our life. Flower-of-an-hour would take us back to the day when all our hopes and ambitions were concentrated on a single cast of fortune, and it failed us, and the world went dark for a space. Then there would be the plants that had been given us by friends because they loved them. We should ask of all we knew, his, or her, favourite flower, and plant it in memory. Many others there would be, and all would be there because—well, just "because." A garden o

A GARDEN OF MEMORIES

All our gardens are, to a greater or lesser extent, gardens of memories, though not deliberately planted as such.

MEMORIES of the years that have gone, of the friends we made and loved and lost, of the joyous years of our youth, of the struggles, hopes, fears, even the joy of battle in later life, but more than all, the memories of the calm between the storms, of the rest that comes after the turmoil and strife in the world that lies beyond the green confines of our garden! A garden of memory: The term sounds like some poetic flight of fancy. And yet, even in this materialistic age, when the suppression of emotion is credited unto us as the evidence of strength, and sentimental expressions of regard for the things that were a betrayal of our weakness, is there not something musical in the very words? There is an infinite tenderness in such a conception that appeals to the chords within us that vibrate to all the joys, fears, hopes and sorrows of life.

Indeed, is not every garden that we have ever known a garden of memory? The epic of life is written in the gardens of our lives. Who is there among garden lovers that can forget their first garden? As children, with tottering feet, led by careful protecting hands along the smooth flower-decked walks, and though our steps were uncertain and our language limited and lisping, we searched with eyes alight for some new jewel of colour. We worshipped colour in those days, and it is a primeval instinct that we have never lost. We were not shown the garden in the days of long ago, for it was we who conducted the little procession of our admirers, and made them pause by our imperial gestures, and baby lisping, as we called attention to the things that attracted us. The newest and rarest flower in the garden had no attraction for us, but in the crimson glow of a big red Pæony we found something we could understand sufficiently to wonder at. This is the real joy of the garden, to wonder at what we see therein:

"Flower in a crannied wall,

I pluck you out of the crannies,
I hold you here root and all, in my hand,
Little flower—but if I could understand
What you are, root and all, and all in all,
I should know what God and man is."

But first it was the colour instinct that attracted us, and all through the years it has been with us—the sensuous delight in colour that has been our greatest incentive to gardening.

A few years later, the garden became our playground. And what a fairyland it was. Every purple-shadowed Nook, and every dim recess in the adjoining woodland where "the garden meets the wild," was a giant's cave or an ogre's castle, which, as the evening shadows deepened, our imaginations peopled with impossible monsters. Sometimes we, fearing, yet timidly braved the unknown and ventured our steps within the dismal precincts. Who knows what awe-inspiring

creatures we did not expect to find there? Perchance it was there that we learnt the elements of that courage that should stand us in good stead in the greater, but not more real, adventures of after life.

The flowers were fairies to us in those days, fairies to whom we talked and who talked to us in a language we understood quite well, but have since forgotten. The glowing petals were but the royal habiliments of our queens and princesses, and the dewdrops but their jewels. The stately Lilies were the queens; a multicoloured host of courtiers in the form of Roses attended them, while all around a noble army of blue guards in the form of Larkspurs protected their royal presence.

Again the years rolled on, and we carried every image from the schoolroom into the garden. Those stories of the departed great had but an indefinite meaning to us within four walls. Here we found something tangible to which we could attach their names and stories. A purple Monkshood became our Caesar, a scarlet Lychnis our Ajax in defence, and a Lily taller and fairer than its fellows our Cleopatra, and in the little dramas enacted around her we found a counterpart for Antony and Pompey; yes, and for every character in history, mythology and romance, and in the marshalled hosts of the flower-de-luce we saw the banners of France leading an army to drain its lifeblood on eastern sands, in perhaps a fruitless, but nevertheless, noble crusade.

And then, still later, the garden became our rendezvous, its retired sanctuaries the meeting places of friends and lovers. In its shadow-checked ways we discussed the things that were serious to us then, and its knarled and storm-twisted boughs became the recipients of many confidences. In that old garden many a friendship was formed, some that would last us through life—a life of which the sunlight striking through the trees was emblematic, in the carpet of light and shade it cast on our feet.

Again, in later life, when, after the toil and stress of the work of the day, the evening shadows on the mottled sward are infinitely pleasant, and once again we wander with a new interest the paths trodden so often before. The interest now is as far removed from that of our first wonder as we are from what we were then. And just in proportion as our capacity for suffering has increased, so our capacity for enjoyment has grown for the pleasures that the garden now affords. The garden is now to us a place of repose and recreation. The childhood imagery has given place to the worship of pure beauty, but if we are fortunate it has never entirely left us. The denizens of the garden are no longer princesses or jewels, but are still symbolic of them, though they are now something better than either. For as we progress along the way we find that our princesses are not always true, and our jewels are often sham, but the flowers

memories, memories of friends, of places we have known and loved, records of events in our lives told in the spirit language of flowers.

Nor need it be a garden without delight for its own sake. All the joys of a garden can be there, but it shall be redolent with the fragrances of the

almost forgotten past; its walks shall be peopled with the souls of the absent, and its every corner shall be filled with our thoughts, actions and associations; in fact, it shall be to us what our inmost mind is now, a garden of memory.

RAINBOW.

The Cattleyas and Allied Genera

The following notes should be very useful to the many gardeners who have the smallest knowledge of Orchid cultivation.

UNDER this heading will be found the most gorgeous and beautiful members of the great Orchid family, and in many collections they are represented by thousands of species and hybrids. Taking the genus *Cattleya* first, and confining ourselves for the moment to pure species and

Gothard and a host of others. A group that finds favour with many is the outcome of using the small flowered and more highly coloured *Laelias* with certain *Cattleyas*. The individual flowers are on the small side, but this deficiency in size is atoned for in the number of blooms upon a spike, while the colours are brighter and, consequently, more attrac-



THE BEAUTIFUL AND FRAGRANT LÆLIO-CATTELEYA GOLDEN GLOW WHICH RECEIVED A FIRST-CLASS CERTIFICATE FROM R.H.S. IN 1921.

varieties thereof, we find enough material to furnish a display throughout the year. In the Labiata section of *Cattleya* we have such noble species as *C. Mossiae*, *C. Mendelii*, *C. Trianae*, *C. Warszewiczii*, and the superb *C. aurea* and the closely allied *C. Dowiana*. Other species include *C. Bowringiana*, *C. intermedia* and *C. Loddigesii*. The hybrids embrace a wonderful series of fine plants if judged from the decorative standpoint. *C. Iris*, *C. Hardyana*, *C. Rhoda*, *C. Maggie Raphael*, a delightful winter-flowering hybrid, *C. Mantinii*, *C. fulvescens*, and *C. Empress Frederick* are decided acquisitions. The genus *Laelia* does not contain many noteworthy species, and perhaps the best is *L. purpurata*, followed closely by *L. tenebrosa*. The *Laelias* and *Cattleyas* freely intercross, and the progeny is known as *Lælio-cattleya*. One of the first bi-generic hybrids to flower was *L.-c. Dominiana*, derived from *C. aurea* and *L. purpurata*, and it is still in the front rank to-day. Other hybrids belonging to this group are *L.-c. bleckleyensis*, *callistoglossa*, *Canhamiana*, *St.*

tive. Typical of this group are *Golden Oriole*, *Goldfinch* and *Golderest*.

A plant that has played an important part in Orchid hybridisation is *Brassavola Digbyana*, its chief characteristic being the broad, open, heavily fringed lip. This feature has been reproduced more or less in all its hybrids, and now we have a fine group of Orchids with massive petals, large, open-fringed lips, and beautiful combinations of colours which are absent in the *Brassavola* parent. Another plant that has been employed largely is the brilliant scarlet *Sophronis grandiflora*, and there are many hybrids approaching the size of ordinary *Cattleyas*, while still retaining much of the brilliance of the *Sophronis*. The *Sophroncattleyas* are real gems, they are not so easily grown as some Orchids but there is nothing really difficult about them, and the observant, intelligent cultivator will be able to grow them successfully.

Cattleyas and their allies may be grown with other plants in the stove, but if a fair number are cultivated, then a house or division must be set

apart for their accommodation. The temperature should be from 55° to 60° in winter, and from 60° to 70° in summer; the latter figure can safely be exceeded with sun heat. Throughout the dull period of the year the plants will need all the light possible, so the roof glass must be kept clean both inside and out.

During the spring and summer months a certain amount of shade will be necessary, and blinds ought always to be used in preference to any permanent shading. When the weather is bright the blinds should be lowered before the leaves become warm, and rolled up again sufficiently early for the sun to raise the temperature 10° or so. Ventilation is an important item, and a close, stuffy atmosphere must be avoided by admitting air on all favourable occasions. The bottom ventilators running parallel with the hot-water pipes may be open the greater part of the year, even throughout the night. With the top ventilators discretion must be used, and the season taken into consideration to prevent cold currents of air passing immediately over the plants. A moist atmosphere is maintained by sprinkling water on the floor and stages twice or thrice daily, but this applies to very dry and hot weather, and at other times once a day is often enough. Any damping down should always be carried out with a rising, and not a falling, temperature. Excessive moisture and a low temperature are usually the cause of the black spot disease. Various composts have been tried for *Cattleyas*, and undoubtedly the best rooting medium is *osmunda* fibre three parts, and *sphagnum* moss one part. The former is cut up into inch lengths, and the latter is cleansed of all foreign matter, and washed if needed.

The time to repot is often a puzzle to the beginner, and plants are frequently ruined because they are repotted in the spring irrespective of whether they are growing or at rest. With a collection some plants will need attention at intervals throughout the year, and the proper time to repot is when roots appear at the base of the new pseudo-bulb. In some cases new roots are seen soon after growth begins, while with other plants the pseudo-bulbs will be nearly completed. The grower should always wait for them, and, moreover, any repotting should be done before they elongate to any extent to prevent injury when providing fresh soil.

Having selected a plant, it is turned out of its pot, the old decayed soil removed, and dead roots cut off, while the back pseudo-bulbs are reduced to three or four behind each lead or growing point. Ordinary flower pots are chosen, and filled one-fourth of their depth with drainage material. Over-potting must be guarded against, and, as a general rule, enough space should be left for three additional pseudo-bulbs. The compost is made firm, and brought up level with the rim of the receptacle, being neatly trimmed off with a pair of large scissors. Newly potted plants need careful watering; the soil should be kept just moist to encourage root action, and if the weather is bright, a little extra shade will be needed for a few weeks, and a light spray overhead will be beneficial. Rain water ought to be used and it should be made tepid during the winter months. Established specimens that have not been disturbed will take a copious supply of water while growing freely, but when the pseudo-bulbs are fully developed a less quantity will suffice to keep the plants in a plump and rigid condition. Thrips will be present occasionally, and directly they are noticed the house must be vaporised with some reliable fumigant. Scale insects are removed with an old tooth-brush and sponge, but in a healthy collection they rarely make their appearance.

If it is desired to increase the stock of any particular plant, the pseudo-bulbs removed at the

time of repotting may be employed for propagating purposes. Place them in small pots with plenty of small crocks and a little soil on the surface; a stake will be needed to hold them in position. Arrange the pots in a shady corner at the warmest end of the house, and when a growth is formed

re-pot each piece in the same way as you would an established plant. There is no reason why any grower with an average intelligence and a love for plants, should not succeed with Cattleyas. They are as easily managed as ordinary greenhouse plants.
T. W. B.

Winter Irises at Glasnevin

HERE has been an unusually fine display of all varieties of *Iris unguicularis* this season, and many readers of THE GARDEN have recorded instances of early flowering. I send you blooms in the bud stage of four distinct varieties.

Iris unguicularis speciosa is always the first to show buds here. In colour it is a much paler blue than *I. u. marginata* and is more slender and graceful in shape. It is a native of Algiers. *I. u. Imperatrice Elizabetha* has narrow foliage; the flowers are of a lilac tint, the falls broad with a large white blotch lined with darker lilac border; it has a "claw-like" expression. It flowers freely; this season it has not been a single day without blooms since the middle of October.

Very different in habit is *I. u. Lazica*, named from Lazitan, the district in which it was found on the shores of the south-eastern corner of the Black Sea; its creeping rhizome and broad foliage more distinctly ensiform, as opposed to linear, than that of any other form. The colour is a dark purple, the veining being more marked than that usually seen on the Algerian plants. It is the latest of the family to open in this garden; its flowers are usually borne on short stems and are much admired, and desired by slugs.

I. u. speciosa alba is very attractive; the clear yellow blotch on the fall being like a golden eye. The fragrance resembles that of Primroses.

I. u. marginata has no flowers open to-day. It is deeper in colour and larger than *I. u. speciosa*. It is the form most frequently seen in Irish gardens.

Early in January *Iris n. cretensis* began to flower. It was so distinct in colour, shape and size from the other varieties that "The Genus Iris" was taken off the shelf to make all things plain to us. It is a brave, not to say foolish, person who unshreads his or her pen in argument with Mr. Dykes. However, the distance between Vincent Square and Glasnevin is great, and, more comforting still, Mr. Dykes will probably not see these notes, so I boldly venture not to criticise botanical descriptions, but to describe this Iris as it grows here, and as it is seen by a gardener's eye and not that of a botanist. I will quote from Mr. Dykes' noble book: "There seems to be no good reason for separating the Greek (*I. cretensis*) and Asia Minor forms of this Iris from the Algerian plant (*I. unguicularis*) as a distinct species. When Janka first described his *Iris cretensis* he was so intent on showing that it was not *I. humilis*, a plant from the Caucasus under which name Sieber had wrongly identified his specimens from Crete, that he altogether forgot to mention *I. unguicularis*. In any case he would have probably found it difficult to give any differentia beyond mere size by which to separate his *I. cretensis* from *I. unguicularis*. It is undoubtedly true that the Greek plant is smaller than the Algerian, but the two agree in possessing so many characters that are peculiar to them among Irises that they cannot reasonably be separated."

The plant of *Iris n. cretensis* in this garden is abundantly distinct: of close tufted habit; long, narrow leaves; the flowers of a firm texture; falls large, very dark blue, not pointed; a well marked yellow obtuse patch in the centre, netted with white ribs marked at end of the patch by a semicircle of darker blue which separates the variegated lined portion of the fall from the uniform colour. Of the apical portion the standards are distinctly reddish at the base to half way up. Upper part broadly wedge-shaped, much broader than in the type, recurving, so that the whole flower has a much flatter, larger appearance than *I. unguicularis*. The red bases and very pale

THE FIRST SHOW OF THE YEAR

THE Royal Horticultural Society has made a good start with the fortnightly meetings at Vincent Square, for on January 17 there was quite a pleasing variety, much more than the cold and bleak weather would have led one to expect.

From a floral point of view it was the Carnations that held the eye, and these were shown by such regular exhibitors as Messrs. Allwood Brothers, Mr. C. Englemann and Messrs. Stuart Low and Co. Time was, and not so long ago, when Lord Lambourne, the present President of the R.H.S., often sent an exhibit of high quality from his gardens at Bishop's Hall, Romford, and it may, perhaps, be considered an augury for the future that on the present occasion Lord Lambourne was awarded a silver Flora medal for a valuable collection of Carnations. The principal varieties of Carnation to be seen were the new American Laddie and Topsy, with Edward Allwood, Mary Allwood, Saffron, Cupid, Wivelsfield Claret, Wivelsfield White and Carola of the Perpetuals, and Mrs. C. F. Raphael of the Perpetual Malmsons.

Besides Carnations, Messrs. Stuart Low and Co. had a dozen or so little pot plants of the ever-welcome *Daphne indica rubra*, which, even on so cold a day, were deliciously fragrant.

Messrs. Stuart Low and Co. showed very good plants of *Azalea indica* in variety, a useful plant which was also exhibited by Messrs. L. R. Russell, Limited, though their few examples of such uncommon Bromeliads as *Tillandsia Lindenii* and *Vriesea splendens major* attracted more attention on account of their quaint, yet showy flower-spikes.

A delightfully artistic effect was made by Messrs. Carter and Co. with a quantity of the rich blue *Iris tingitana* in uncommon receptacles. *Iris histrioides*, another early species, was to be seen near a few pots of Christmas Roses in the stand by Mr. G. Reuthe; but for the earliest real spring flowers one had to turn to the exhibit by Messrs. R. Wallace and Co., who had Crocuses of the most dainty appearance imaginable. These were of such true species as *C. billorins*, *C. Imperati* and *C. Susianus*. There was just one pot of the earliest Daffodil and some of the varieties of *Erica carnea* which flower before the type. Winter Beauty, Thomas Kingscote and Queen of Spain are all attractive, but not so floriferous as King George, which received an award of merit.

What must really be the last *Chrysanthemum* of the season were shown by Mr. S. Ash, and these were useful blooms of Nagoya (a rich yellow), Winter Cheer (rosy mauve) and The Favourite (white).

A rather nice little rock garden was built by Messrs. William Cutbush and Sons and planted with dwarf shrubs and suitable alpinists. Messrs. Skelton and Kirby also had a small rockery, while Mr. C. Dixon made a neat model of a rock garden adjoining a sunk garden.

Orchids were not numerous, but besides the usual novelties "up for award," there were collections by Messrs. Sandor and Son and Messrs. Stuart Low and Co. The former had an excellent plant of the graceful white *Vanda Watsoni*, which received a cultural commendation, and some beautiful *Cypripediums*, *Cymbidium* and

Odontoglossums. In the collection by Messrs. Stuart Low and Co. there were many interesting *Lalials* and *Brasso-cattleyas*.

Among the exhibits of paintings and preserves there were some vases of *Ornithogalum lacteum* which were given their Zulu name of *Chinke-richees*. These had travelled from South Africa in cold storage, and will continue to open their flower-buds if properly attended to. Mr. K. A. Malby had some of his most beautiful photographic transparencies of specimen flowers, fruits and garden scenes.

Fruits and vegetables were better represented than is usually the case in January. Messrs. George Bunyard and Co. contributed a gold medal collection of wonderfully good Apples. There were seventy-five dishes, and each was unusually good. The fruits were firm, well shaped, and many possessed even higher colour than those Messrs. Bunyard had at the Autumn Fruit Show. Some of the most brilliant varieties were Wealthy, William Crump, Rougemont, Scarlet Hollandbury, Mother and Baumann's Red Winter Reinette.

Sir Charles Nall-Cain sent from The Node, Welwyn, a handsome collection of Apples and Pears. Among the Pears we noted Uvedale's St. Germain, Josephine de Malines, Beurré Alexander, Lucas and Bellissime d'Hiver. The dessert Apples included Cox's Pomona, Cox's Orange, Paroquet, Claygate Pearmain, Blenheim Orange and Adams' Pearmain. This valuable collection received a silver-gilt Knightian medal.

The vegetables were from Messrs. Sutton and Sons, and were of the high quality associated with the Reading firm. The very handsome Leeks, Sutton's At Kale, Couve Tranchuda, forced Dandelion and Chicory, Potatoes and Onions were all excellent.

NEW AND RARE PLANTS.

Erica carnea King George.—This variety differs from the species in that it is more compact in habit and flowers earlier. It is one of the several varieties collected in Switzerland some time back by Mr. Potter, but has until now not received recognition. It was said that the specimen shown had been in flower since last September and it will continue in bloom for a considerable time to come. It has something of the habit of *E. carnea alba*. Award of merit to Messrs. R. Wallace and Co.

Hamamelis japonica rubra.—An interesting deeper-coloured variety, but not so showy as *Hamamelis mollis*, though a decided improvement on the type. Shown by Messrs. R. Wallace and Co.

Chrysanthemum Harlow Bronze.—If only for its lateness, this medium-sized Japanese variety will be valuable. It is also brightly coloured, the bronze having a rosy sheen. Shown by Messrs. Keith Luxford and Co.

Primula sinensis varieties.—There were several good sorts before the Committee. Queen of the Pinks is a bright semi-double variety, Giant White has stellata habit, and the pure white flowers have plenty of substance. Monarch is a rich self crimson variety. All were shown by Messrs. Sutton and Sons.

blue styles, deeply lobed, add to the difference.

Mr. Dykes says *I. u. speciosa* in his experience does not come into flower until March and is of a deep reddish shade of purple. Here, as I have already said, it is the earliest to flower and the palest blue of all.

The plants of *I. unguicularis speciosa*, *I. u. Imperatrice Elizabetha*, *I. u. marginata* and *I. u. alba* were bought from Dammanu of Naples

thirty years ago. The plant of *I. u. cretensis* came from Bitton.—W. PHYLLIS MOORE.

[The flowers Lady Moore sent bore out her contention that *Iris cretensis* is, to the eye of a layman, very different to any of the recognised *unguicularis* forms, but it is equally obviously closely related botanically. Species or subspecies, it is unquestionably a very charming plant.—Ed.]

CORRESPONDENCE

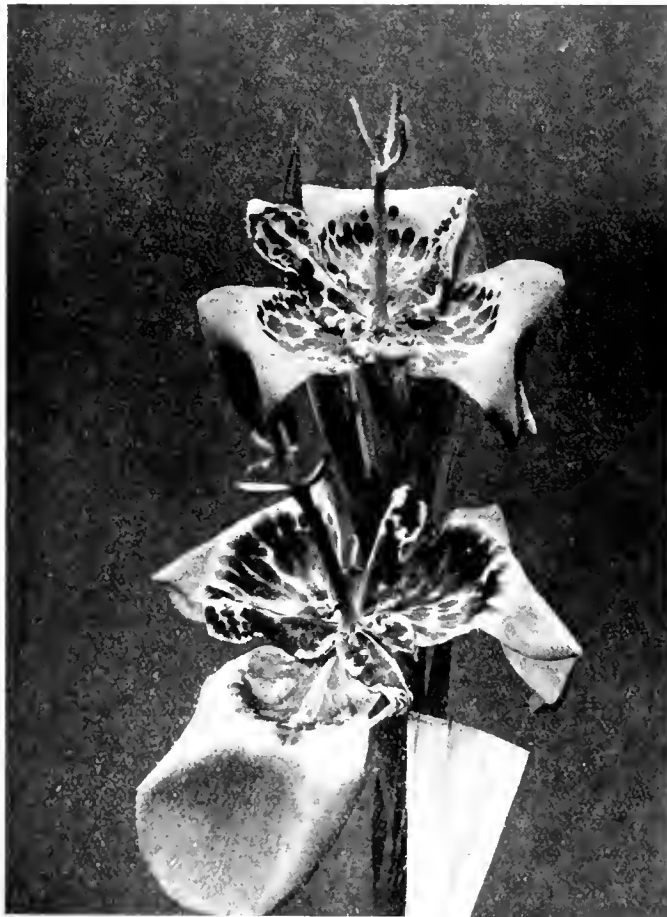
AN INTERNATIONAL EXHIBITION.

FRESH from the hospitality and enthusiasm which signalled the proceedings of the last International Show—I mean the one at Le Mans—and also having been present at many others, I read the paragraph on page 13 with much interest. I do not think the writer fully realises what is necessary to be done to organise an international horticultural show here in London in 1923—that is to say, a show worthy of our great city. The last one took about two years' constant and continuous work of the Committee, which subsequently became the Board of Directors. Probably much of the machinery still exists; certainly most of the active workers are still with us, although death has removed some, notably that splendid chairman, Mr. Gurney Fowler, the like of whom it would be difficult to find again. Another point of great importance is not to clash with big Continental international horticultural shows, and there will certainly shortly be two to deal with, viz., the next Ghent Quinquennial and the next Paris International. Those of us who remember the London Royal International Horticultural Exhibition of 1912 do not forget the large empty area in the section provided for Belgian horticulture—the chief reason of which was that the Belgians had already made preparations for the Ghent Quinquennial of 1913 and could not spare the material to fill the space allotted to them as the Dutch and the French did in theirs. If the Belgians do not allow the war period to count, 1923 is the year due for the next Ghent Quinquennial, but at present it does not appear to have been announced.—C. H. P.

THE CULTURE OF A NEGLECTED RACE OF PLANTS.

THAN the wonderful Tiger Flowers (*Tigridia*) there is nothing more brilliant. Their colour combinations are as daring as anything in nature. Intense crimson, scarlet, yellow, purple, orange, blue and white in practically endless combination

appear, and though the flowers individually are ephemeral, by way of compensation they are produced in succession over a long period. They are especially good for the boxes of sunny windows to breakfast rooms or any room that is only



FLOWERS OF THE HANDSOME TIGRIDIA PAVONIA.

occupied during the first half of the day, as the magnificent flowers are at their best until eleven o'clock. Culturally they are very easy to manage, simply requiring a light, rich soil and a warm, very sunny position. In boxes, or where a special compost can be given them, a mixture of two parts of fibrous loam to one of peat and coarse sand is suitable. Well mix this, and plant the bulbs 3 ins. apart and 2 ins. deep. Each should be surrounded with coarse silver sand, but do not press the soil too hard. Where grown on a border, the best position is under a greenhouse or other wall facing full south on a raised bed. This not only ensures free drainage, but raised soil always lies warmer than that on the level. Wait until the growth is well through the surface, then hoe the soil frequently so as to keep it loose and open,

as this both admits air and prevents evaporation. *Tigridias* love abundance of moisture at their roots and must never be allowed to lack in this respect, or the buds will go blind. After flowering is completed, allow them to remain in the soil until the leaves are quite dead. In wet autumns this is sometimes a difficulty, as they are kept green long beyond their normal time. A spare frame light placed over them is a great assistance in ripening them off, as it keeps the soil drier. When completely faded, lift the bulbs and store away in perfectly dry sand in a frost-proof place until March, when planting time returns.—H. W. CANNING-WRIGHT.

THE HOSTS OF THE MISTLETOE.

FROM time to time I have noticed interesting notes in *THE GARDEN* on the Mistletoe and its hosts, one of these appearing in the issue for January 14th. I once carried out an enquiry on the distribution of this parasite and its host plants, and the results of the enquiry were published in the *Quarterly Journal of Forestry*, Vol. VIII, 1914, page 20. As the result of this enquiry information was obtained of the occurrence of the Mistletoe on various species of *Acer*, *Æsculus*, *Cladrastris*, *Corylus*, *Cotoneaster*, *Crataegus*, *Fraxinus* (including the Flowering Ash), *Juglans* (but only on *nigra*), *Mespilus*, *Ostrya*, *Populus* (but only on the Black Italian), *Prunus* (but only on *coccomilla*), *Pyrus* (but only on *Aria, baccata, Malus and prunifolia*), *Quercus* (on the common Oak twice and frequently on *rubra*), *Robinia*, *Salix*, *Sorbus*, *Syringa* and *Tilia*. No records were furnished of the following trees serving as host plants: Beech, common Walnut, Lombardy Poplar, White Poplar, Plum, Cherry, Pear or Elm; but since 1914 I have heard of its growing on the Plum, the Pear and the Elm. One of the few records of this parasite's occurrence on the Elm is at Charlton Park, Buckinghamshire, so that instances of such cases are of special interest.—W. SOMERVILLE, *School of Rural Economy, University of Oxford*.

CARNATION THIEVES.

AS a sequel to a series of raids on my firm's (Messrs Stuart Low and Co) nurseries at Bush Hill Park, commenced as long ago as November, 1920, two men were sentenced to three months' imprisonment at the Enfield Police Court on January 2. At the Carnation Show in November so many friends asked why our 1922 novelties, Eileen Low and Sir Mackay Edgar, had not been put up before the floral committee, that I was tired of explaining that a few nights previously the thieves broke in and stole the whole of the best of our flowers. I only saved the flowers for the Chelsea Show by sitting up at nights with the foreman, Mr. Ives, and we only secured the thieves at last by continual watching with the assistance of detectives.—LAURENCE J. COOK.

A BEAUTIFUL IRIS.

I HAVE the lovely *Iris unguicularis* in flower at the present time, which I believe I purchased some time ago under the name of *I. stylosa*. The colour of the flower is given as pale blue and light blue in two catalogues, and lavender blue with yellow blotches in two others. I was waiting until mine were in flower again before writing anything as to their colour, but all the blossoms I have seen are a pale mauve, about the same colour as the Neapolitan Violet. I certainly think such a lovely flower as this is, and one which welcomes us in the depth of winter in the open, deserves a better description than "blue with yellow blotches." Both standards and falls are of the same soft mauve tint, made the more delicate by the thinness of the petals. On

the inside the standards have a deep purple, well defined streak at their base, while the base of the falls is a rich light green, shading into a brilliant yellow streak, surrounded by pure white, into which the mauve runs in fine, well marked lines. Over this green, yellow and white zone very fine hair-like dark purple lines radiate from the throat of the flower till they reach the mauve. The three narrow, double-tongued styles are a still paler mauve than that of the petals and contrast most beautifully with the deep purple bases of the standards and the green, white and yellow of the falls, with their perfectly regular and fine radiating lines. It would be well to see this exquisite thing listed under one name and accurately described as regards colour.—H. H. WARNER.

THE EUCALYPTI.

EUCALYPTUS CITRIODORA is, in my judgment, well worth growing for its fragrant foliage alone. We have one here which was raised from seed many years ago in a greenhouse, and was planted out of doors. It is now 30ft. to 40ft. high and has stood unmoved through many heavy gales. I have an idea that its subtle fragrance is healthful in the garden and that it is making good as one sleeps. There is another species, *E. Globulus*, which is also attractive, and no greenhouse or garden should be without these plants. They are easily raised from seed in spring and early summer.—WALTER SMYTH, *Hollywood, County Down*.

SOME UNACCOUNTABLE ANTIPATHIES AND SYMPATHIES BETWEEN PLANTS AND PEOPLE.

HAVE any other readers, I wonder, observed an apparent antipathy or sympathy existing between certain plants and people? It is not a question of people liking plants, but of plants liking people. No; it's not "fancy," but a fact! for it is notorious that even skilled professional gardeners succeed with some plants and fail with others. Have you not often heard folks say, "I never *can* grow such and such," or if complimented on some flower and asked what particular treatment it has been given, "Oh! I never take any trouble with it—it grows quite easily." Now there *must* be some underlying reason for this. Can anyone hazard an explanation? The occasion for this query is our Editor's advice in *THE GARDEN* of January 14 to "sow Sweet Sultan," a flower I have always desired to grow, but it declines my company. I have sown it time and again, but it does not come up. I have bought seedlings in boxes and planted and tended them, all in vain. They sulk and pine away and die, or else survive only in a miserable stunted condition, while in other gardens close by my envious eyes behold Sweet Sultans galore. My mother could never grow Mignonette, much as she desired to do so, nor Lilies of the Valley. My Mignonette spreads in weedy masses, and even permits me to transplant it, and Lilies of the Valley stray out into the pathways. Many find Parsley difficult to grow. Wherever I sow it it does not "go nine times to visit His Satanic Majesty," but comes up quickly and freely; in fact, it seems to follow me like a robin round the garden, for sometimes I find a stray robust rogue in a flower border. *Heuchera sanguinea* will not flower for me (and it's so pretty), *Convolvulus major* is coy in my company, while Canary Creeper and climbing *Nasturtium* love me and try to come inside my open windows. Cornflowers do not care for me (and I do love and desire *true* blue flowers in my garden), but *all* sorts of Daisies do, and I dote on them, from the little double red and white childish one in spring up to Mr. Beckett's tallest and most

magnificent Michaelmas Dames. Poppies and I agree, and Carnations and Pinks of all kinds revel in my society and I in theirs. Bulbs and I are always happy together (I was born in Daffodil-time, at the Vernal Equinox, so no wonder). Situation and soil do not account for these sympathies and antipathies, for I have had eight gardens—town and country, suburban and seaside, large and small, river valley and (as now) some 400ft. above sea-level—and the foregoing experiences have been the same in them all, though some favourites have thriven better in some gardens than in others. Will other readers who have noticed similar likings and dislikings give their experiences?—ANNE AMATEUR.

THE FRUIT OF A BEAUTIFUL CLIMBER

I ENCLOSE a pod of *Araujia sericifera* (syn. *Physianthus albens*) which may interest you. The long, silky filaments attached to the seeds, and from which the plant derives its specific name, are very attractive. My plant is growing on a wall facing south, and has borne about twenty of these large pods this season. The small white flowers are not specially attractive, but their "cruel"

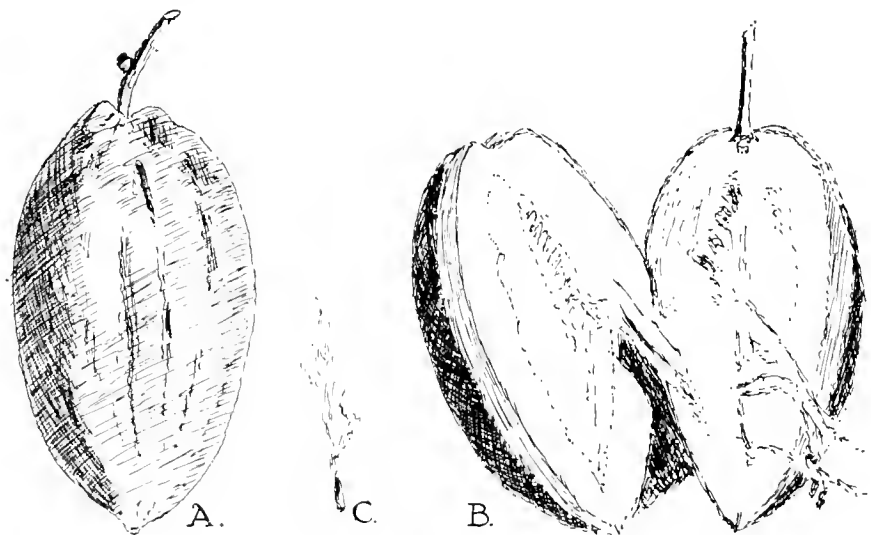
parts of Kirkcudbrightshire and Wigtownshire before December has run much of its course.—S. ARNOTT.

A NATIONAL DAFFODIL SOCIETY?

MAY I suggest to Mr. Engleheart that he ought to get a few stronger nails if he wishes to keep Mistress Daffodil inside her coffin? Perhaps "Somers" could supply him with a few!—JOSEPH JACOB.

"THE GARDEN" AS A BOOK OF REFERENCE.

IT is not too late, perhaps, to suggest that more subscribers to *THE GARDEN* should make a New Year resolution to keep their copies and have them bound at the end of the year. They make such an invaluable book of reference. Having been without home or garden for over two years I have studied other people's gardens whenever possible, and seen many plants that to me are quite new, especially among flowering shrubs and climbers. In my box of favourite books that did *not* disappear "into store" are four bound volumes of *THE GARDEN*, 1916-19



FRUIT OF *ARAUJIA SERICIFERA* FROM THE PLANT GROWING OUTDOORS AT WEST PORLOCK.

A, The great green pod; B, Same fruit split at the suture; C, Seed with its "tail" of silky hairs. (One half natural size.)

habit of catching moths and butterflies by the proboscis is a remarkable one, and it is difficult to see in what way it benefits the plant. Probably the *Araujia* only fruits outdoors in England after hot summers, as it evidently enjoys any amount of sunshine.—NORMAN G. HADDEN, *West Porlock, Somerset*.

"THE FIRST KNOWN DAHLIAS"—A CORRECTION.

ON page 24 in my article on "The First Known Dahlias," there is a little misprint which may mystify the reader. In the second column, twenty-fifth line, it reads "shell on which the flower is mounted." The word "shell" should be *sheet*, meaning the sheet of paper on which the flower is mounted. Four lines lower it reads "Annules du Muséum." This, of course, should be "Annales."—C. H. P.

FLOWERING OF SNOWDROPS.

MY first Snowdrops of the season were in full flower on January 2, an unusually early record for this part of the country (Dumfries). It is not unusual to see Snowdrops in bloom near the Solway and in some of the other mild

inclusive, and in one or more of them I rarely fail to find some reference to these strangers—whence they come, where they may safely be planted, and how they should be treated. These notes are doubly valuable, being usually written by correspondents whose opinion we have come to know and respect. And, of course, old friends are not left out—Daffodils, Tulips, Lilies, Roses, Irises, what you will, they are all there waiting for your consideration.—W. DUGGAN.

BLACK SPOT IN ROSES.

I WAS reading the other day, in an interesting article on *Pernetiana* Roses, that many of the descendants of *Soleil d'Or* are liable to black spot, and I thought my experience might be of interest. I have a large number of *Pernetiana* Roses, and the chief experience so far of black spot that I have had was with *Juliet*. This from the very first leaf it put out in its first year was covered with black spot. A little appeared on the next Rose, *George Dixon*. I gave this *Juliet* away and it has been growing for two years in a Suffolk garden and has so far showed no sign of the disease. I have had none since in my garden.—AMATEUR.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Broad Beans.—A sowing should be made to follow the autumn-sown batch. This vegetable delights in an open position and a fairly strong soil, and such should be chosen for the main sowings; but for the present one it will be better if a warm border can be given up to them, so as to hasten them along as quickly as possible. This plant is also amenable to pot culture where room is available, and for this purpose Beck's Dwarf Green Gem is one of the best. Choose pots with a diameter of 8ins. or 9ins. and only half fill the pots at the time of sowing, so that a good top-dressing may be given later. A suitable compost for sowing in would be two-thirds loamy soil and the rest flaky leaf-soil and spent mushroom manure.

Peas.—Choose a warm, well drained piece of ground and make a sowing at the first favourable opportunity, selecting for preference a round-seeded variety such as The Pilot for this sowing. As germination may not be so reliable as later, sow rather more thickly than would be advisable for the subsequent sowings. Sow in shallow drills, afterwards covering the seeds with fine soil. Further sowings should be made in boxes and brought quietly forward under cool conditions as sturdily as possible to make sure of a good succession.

Leeks.—Should plants be required for show purposes or for early kitchen supplies, a sowing ought to be made now under similar conditions to that advised in last issue for Onions, and grown in like manner, unless only a few dozen plants are required, when it would be as well to pot them off singly into 4in. pots when ready, instead of pricking them into boxes as advised for Onions.

The Hardy Fruit Garden.

Spraying.—This important operation is best carried out on mild, calm days, so that the unavoidable risk of the operators getting a little of the wash upon them may be reduced to a minimum; but even then it is necessary for a proper covering to be worn to protect hands, face and clothes. There are thoroughly reliable washes advertised frequently in these columns, and the instructions generally accompanying such should be carefully followed.

Nuts.—These valuable food plants will thrive in almost any garden soil with the exception of a water-logged one, and may sometimes be profitably planted where other fruits do not give very satisfactory returns, such as a very stony position. In selecting a site an elevated one would be preferable to a low-lying one. Planting may still be carried out when climatic and soil conditions allow. The bush method is perhaps the most convenient for Cob and Filbert, but they do quite well as standards or half-standards. When grown in this latter manner it is important to form good head foundations by pruning fairly hard for a season or two. Plant a variety which freely produces male catkins among the others. The variety known as Pearson's Prolific Dwarf has been most favourably reported upon for this purpose.

The Flower Garden.

Annuals as Bedding Plants.—The use of these must be considered conjointly with summer bedding arrangements, for with a great many of the annually raised flowering and foliage plants it is a question of fitting them in to suit requirements, and the selection requires careful consideration. Where there is such a wealth of plants to choose from it is simply a question of meeting individual tastes. In making a selection of annuals for bedding purposes those of proved merit should be chosen. The reserve or other less important parts of the garden should be the trial ground for varieties less well known. Among annuals suitable for bedding purposes pride of place must be given to the Antirrhinum, which, though really perennial, is generally treated as an annual. By making judicious use of a few of the best colours in the intermediate section some really excellent results may be had. The annual Delphiniums, too, make a splendid show when boldly massed, as also do the Lupins. To mention a few others, there are Asters, Alonsoas, Clarkias, Eschscholtzias, Godetias, Nasturtiums (must not be grown on rich soil), Nemesias and P'lox. Especially worthy of note is the Nemesia.

There are but few plants which can approach the brilliant effect produced by a massing of the mixed large-flowered varieties.

Fruit Under Glass.]

Figs.—To obtain early fruits there is nothing better than a few good pot or tub plants, and this method of culture has a great deal to recommend it where space is limited, for such plants may be given a start with Peaches or Vines. Where such is practicable the plunging of the pots or tubs in leaves will encourage a good start by stimulating a healthy root action. Particular attention should be paid to ascertain if the balls of soil of such plants are in an even state of moisture. Avoid extremes of heat, dryness, stagnation of soil and atmospheric moisture.

H. TURNER.

(Gardener to the Duke of Northumberland.)
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Broad Beans.—In sheltered gardens a sowing should now be made on a warm border for early use. Early Mazagan is one of the hardiest and best varieties for this purpose, while Beck's Dwarf Green Gem is an approved variety where dwarf-growing plants are favoured.

Mint.—Lift a number of roots of this herb and place in boxes for gentle forcing.

Seakale.—Fresh vegetables will now be getting scarce, so occasion should be taken to insert batches of strong forcing crowns at fortnightly intervals and so make sure of generous supplies of this useful vegetable.

Cucumbers.—The present is a favourable time to sow for a first crop. Sow the seed singly in 2½in. pots, using a light, rich compost and braid in the warmest structure available. Kochford's Market is a reliable setter and a heavy cropper for early work.

Fruit Under Glass.

The Orchard House.—Loosen any trees that may be trained to wires on the back wall of the orchard house and have all brickwork lime-washed. Woodwork and glass should also be thoroughly cleansed. The pruning having been done some time ago, the trees on trellis-work must now be carefully trained over and the growths tied in at even distances. The main border of the house where various trees have been planted out should have the surface soil pricked up and suitably top-dressed.

Melons.—Where well heated pits are available, a good sowing of an early maturing variety should now be made. Sow singly in 2½in. pots and plunge in a bed containing a fair amount of bottom heat. Keep the pots covered with a small frame or hand-light until germination takes place. The early crop can be very successfully grown and fruited in pots. The advantage of this method consists in having the plants more under control. The compost should be examined for eelworms and wireworms, and these pests eradicated before the young plants are transferred to their fruiting quarters. Good rich loam with a sprinkling of bone-meal and old lime rubble suits Melons well and should be placed in the house where they are to grow a few days before planting, so that the chill may be taken off the soil.

The Flower Garden.

Preparing Ground for Sweet Peas.—Where Sweet Peas of the highest quality are desired the ground should receive the necessary treatment at this time, provided the climatic conditions are favourable. Trench the ground thoroughly and work in a generous supply of well rotted manure into the bottom spit. Give a light sprinkling of fine grade bone-meal and soot as the working of the soil proceeds, while leaf-mould, old hot-bed manure and wood-ash should be incorporated with the top-spit, as this tends to encourage the young plants at the start, more especially if the natural soil is of a cold, clayey nature.

Roses.—Pillar and climbing Roses should now receive attention in the way of pruning and having the strong growths tied in. The more tender varieties should be left until the end of March, as owing to the variable weather conditions experienced in Northern gardens it is unwise to prune any that are readily injured before that period.

Wistarias.—These desirable climbers should now be pruned and tied in where necessary. Provided the plant has covered the space allotted it, spur-pruning should be practised, as this method has proved most successful in encouraging the necessary ripening of the spurs from which a plethora of flower buds may be expected. If an old growth shows signs of deterioration, train a young shoot up beside it and eventually this may replace it.

JAMES McGRAN.

(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock.

CONSERVATORY AND GREENHOUSE.

Sweet Peas sown last autumn and grown in cold frames should now be ready for potting on into their flowering pots. They require a good root-run, so rain pots should be employed; this is rather a large shift, but it is better to put the plants into their flowering pots now, as they may resent disturbance when they are in full growth later on. Until the plants get well away at the root great care must be exercised in watering. The plants must not be hurried in any way, or the resulting growth will be weak and spindly. They should be stood in a cool, airy house and be given ample ventilation on every possible occasion, carefully avoiding draughts, which are apt to start mildew. The plant should be given suitable supports in time, as they should never be allowed to fall over. When the pots are well filled with roots they should be fed twice a week with diluted soot water, farmyard manure, or guano may be used for a change, using about half an ounce to a gallon of water. Artificial manures should be used with great care and by someone who has a knowledge of them.

Lathyrus pubescens.—This beautiful plant is a native of Chili and Uruguay, and although first introduced in 1840 and again during 1892, is by no means so well known as it deserves. In the West it is hardy when planted against a warm wall. It is by no means a long-lived plant, but is easily raised from seeds, and makes a very beautiful climber for a cool greenhouse. Its pale violet fragrant flowers, which are very freely produced, are useful as cut flowers. I have grown it to perfection planted out on the bench of a Malmesion Carnation house, training the growths thinly to wires under the roof glass.

Lathyrus splendens.—A native of California, this is another beautiful plant that can be grown to perfection under the same conditions as those described above, although it is by no means so good-humoured a plant as *L. pubescens*. When doing well its beautiful crimson flowers are produced with great freedom. This plant, like the former, may be raised from seeds.

Greenhouse Climbers.—The pruning of such plants as require it at this time should now be completed, and at the same time the plants should be untied and cleaned. Plants such as Fuchsias, which if planted out make ideal plants for furnishing the rafters, should be spurred hard back. In selecting Fuchsias for this purpose free-growing varieties are essential. Rose of Castile Improved, Monarch and Lord Roberts are good types to use. Other greenhouse climbers that require to be pruned hard back in the same way are *Solanum Wendlandii*, *Plumbago capensis* and its variety *alba*. *Tibouchina semidecandra* is a beautiful winter-flowering plant, better known, perhaps, as *Ileroma macrantha*. It is seen to best advantage if it can be trained up a wall, as its habit is rather stiff for training under the roof. *Bougainvillea glabra* should also be pruned hard back as advised for Fuchsias. This species is the best one for growing in pots, and where grown in this way the plants, which should have been kept dry during the winter, should now be pruned and started into growth in a warm house.

Abutilons are—or were—favourite plants for planting out in conservatories, but they should be used with care, as their dense habit of growth may prove too much for the plants underneath them. They are well suited for training up a wall, but *Abutilon insigne* is an ideal plant for clothing a rafter, the long slender flowering shoots hanging down in a very graceful manner. This plant has been flowering very freely for some weeks now. *Abutilon vexillarium* and its variegated variety are slender-growing plants also and well suited for clothing rafters.

Hibbertia dentata is an evergreen twiner well suited for a small house, and produces its beautiful yellow flowers very freely during the spring months.

Sollya heterophylla, native of Australia, is a slender-growing climber which produces its

beautiful blue flowers more or less all the year round. It is suitable for training up a pillar or up a wall, where it can get plenty of light. There are many more climbing plants suitable for this purpose, which I hope to refer to in due course, as well as other plants which might with advantage be planted out in the conservatory.

Freesias.—Successional batches should be removed from the cold frames as they are required and be given a light position in a cool greenhouse. The growth should be supported before it falls over, for if once allowed to fall over it never seems to recover properly. Freesias should always be grown as cool as possible. It is true they can if necessary be brought on in heat, but it is always at the expense of the plant and the quality of the flower. As they pass out of flower the plants should be given every attention and not neglected, as is too often the case. They should be encouraged to grow over as long a period as possible, so that strong corns are built up for next season. They can be raised from seed and flowered in nine months' time. That method I will describe later.

J. COURTS.

Royal Botanic Gardens, Kew.

Early Garden Peas.—The gardener, whoever he may be, always takes a pride in raising early vegetables, none of which is more popular than the early Green Pea. Unfortunately many an amateur hesitates attempting to grow a dish of Green Peas by the end of May or beginning of June: first, because he does not think it possible, and, secondly, because the Pea is too often regarded as a somewhat tender plant. The latter is true in regard to the marrowfat or wrinkled varieties, which under ordinary conditions should not be sown in the open until March at the earliest, except, perhaps, in some of the warmer parts of the South. But there is a good tall-growing variety of the round Pea, viz. the Pilot, which if sown during January, preferably towards the end of the month, will yield a good crop by May in any ordinary season. The Pilot is a very hardy Pea and will stand the wet and cold of a bad spring when most other varieties fail. Crops of this have often been ready by Whit Sunday when this festival has fallen due in the last week of May. The Pilot Pea should be sown fairly thickly in well prepared trenches, and small bushy sticks stuck in when sowing is completed in order to afford some little protection when the plant first shows above ground. When this stage is reached a little earthing up is useful, and it is also necessary to protect the crop against the ravages of birds. The Pilot usually reaches 3ft. or 4ft. in height. There is also a very useful Dwarf Pea for early work. This is the Little Marvel. It may be sown fairly thickly in rows across the garden patch towards the end of January or during February, when in a normal season it will provide a good supply of really nice and good-flavoured Green Peas by the end of May or beginning of June.

A Market Grower's Directory and Handbook.—"The Fruit Grower Directory" should be invaluable to all who cultivate fruit, flowers or vegetables for sale or who sell surplus produce. The British classified section contains, among many others, lists of manure and chemical manufacturers, natural manure suppliers, horticultural auctioneers, wholesale and retail seedsmen, fruit growers, market gardeners (under glass and outdoors), fruit-ers, fruit preservers and jam manufacturers, markets, with the salesmen in different departments of each. Potato merchants and nurserymen. There is also a British alphabetical section, and there are also Colonial and Continental sections. Quite apart from the directory proper, there are some sixty-five large pages devoted to useful handbook information, much of which is un-

* "The Fruit Grower Directory and Handbook, 1922," by Benn Bros., Limited, 8, Boulevard Street, E.C.4. Price 10s. net.

obtainable in any other work of reference. No one interested in horticulture from a commercial standpoint should be without this directory.

"Willing's Press Guide."—We have received a copy of this excellent Press Directory for 1922. This is an invaluable book for everyone who contributes or otherwise has any connexion with the Press.

The Directorship of Kew Gardens.—The retirement of Sir David Prain, the eminent botanist, from the directorship of the Royal Botanic Gardens, Kew, has just been announced. Sir David has held the position of director of Kew Gardens for sixteen years. A terrific worker, Sir David seldom moved far from his office, but those who were fortunate enough to meet him were charmed with his delightful personality. Sir David has been very popular with his staff. It is to be hoped that Sir David and Lady Prain may long be spared to enjoy the rest which they both thoroughly deserve. Dr. Arthur W. Hill, who has been assistant director since 1907, has been appointed director. Dr. Hill was, before he went to Kew, lecturer in botany at Cambridge University and Dean of King's College, Cambridge. He has travelled a great deal and has recently returned from an official visit to Nigeria. A keen sportsman, Dr. Hill is very popular, especially with the student gardeners.

Chelsea Show.—All those who intend to exhibit rock or formal gardens at Chelsea, May 23-25, 1922, and who have not already received a communication from the R.H.S., should communicate with the secretary at once.—W. R. DYKES, Secretary, R.H.S.

Royal Caledonian Horticultural Society.—The syllabus of the series of monthly meetings of this Society has been issued, and the list of lectures, etc., is of great promise for a successful session. Among the lecturers are Sir Herbert Maxwell, Bart., who will give "Cultural Notes on Rhododendrons"; The Brodie of Brodie, who will lecture on "Daffodils"; and Mr. Osgood H. Mackenzie of Tournaog, Poolewe, who will tell of some of the exotic plants with which he is so successful in his wonderful garden in Ross-shire.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

HYBRID HELLEBORES (M. L. T.).—We have no knowledge of the Hellebores grown by the gentleman in question, but if they are the hybrids of *Helleborus orientalis* (Lenten Roses), originally sent out by Heimenann, these are obtainable from Messrs. R. Wallace and Co., The Old Gardens, Tunbridge Wells, and probably from other firms.

SOIL REQUIREMENTS OF GENTIANAS (H. A. G.).—Most of the Gentians mentioned, which are rather coarse species, should flourish in your well drained sandy loam, rich in humus. They require, to flower full sunlight and the addition of sphagnum moss to the top 6ins. or 8ins.—say, one part of sphagnum to four of soil—would be an improvement. These plants are weeds on some soils; on others, apparently similar in composition and aspect, they fail. This is attributed nowadays to the presence or absence of a fungus with which their life history is bound up. Of the list given, *ascendens* is a synonym of *decumbens*, while *Freyriana* and *Lagodeschana* are forms of *septentrionalis*. All three are welcome denizens of any garden. *crucifera*, *decumbens*, *Kesselringii*, *macrophylla*, *cranem*, *phlogifolia*, *punctata* and *tibetica* all run rather to foliage than to flower and are only desirable to the collector. *Przewalskii* and *purpurea* are choice, but not easy to grow; while *Sajonaria* is a North American woodland species, so should have partial shade. *Dungei* and *Matrix* we do not recognise, but *Wagenii* is perhaps *Wahjawi*, which is easy enough to grow, but of no garden value.

THE GREENHOUSE.

TREATMENT OF BULBS IN POTS (L. E. M. S.).—Provided the soil is moist and well drained, poorness will have no effect on the flowering of the bulbs this year. Nutrition for this purpose is stored in the bulbs the previous season. Probably our correspondent kept the soil too dry in the early stages of growth. Even if plunged

in ashes outside, watering was necessary this season owing to the excessively dry weather.

HAEMANTHUS ANDROMEDA (A Devonshire Reader).—This plant is a hybrid between *H. Katherine* and *H. magnificus*. The popular name is the Blood Flower, not Blood Root. The plants will grow in a cool greenhouse, but a little higher temperature than that usually associated with a cool greenhouse is preferable. As a potting compost use equal parts fibrous loam, peat, leaf-mould and coarse sand. The plants flower better when grown in comparatively small pots for the size of the bulbs.

RAISING MESEMBRYANTHEMUMS (W. R. J.).—These plants require an exceptionally warm and sunny position and porous, gritty compost. It would perhaps be preferable to raise the seedlings in a frame, but beyond this the plants would probably thrive on hot, sunny slopes in our correspondent's favoured county of Cornwall.

MISCELLANEOUS.

WEED IN LAWN (R. A. B.).—The weed is the Staghorn Plantain, a native of sandy soil. A pinch of sulphate of ammonia put upon the crown now or any time till mid March will probably kill it outright and will assist the subsequent growth of grass.

USE OF GRANITE TO IMPROVE SOIL (W. R. J.).—We think the shale in the soil should drain it sufficiently if there is means below for the removal of surplus water. If not, the soil should be drained by means of pipes which will carry away the surplus water. No amount of granite would enable water to drain away if the subsoil retains water. The granite might be used for rock-plant soil so long as it is certain that it contains no arsenic. Some of the Cornish rocks are too well supplied with that poisonous material.

BOOKS BY PLANT COLLECTORS (C. B. U., Kirkdale).—There is no bibliography dealing specially with books recording the travels and adventures of plant collectors. Some particulars regarding such collectors and their works are given in Britten and Boulger's "Biographical Index of British and Irish Botanists" (London: West Newman, 1893) and its three supplements, which were published in the "Journal of Botany," 1898, 1903-4 and 1908. The catalogue of the Library of the Royal Botanic Gardens, Kew, would also afford help for the works on travel. Many of them by naturalists are listed separately. The Catalogue is sold by Messrs. Gale and Pollen, Royal Botanic Gardens, Kew, price 8s. 9d. post free; Supplement, price £1 ls. post free. The following are some of the most important books on travel by British and Irish naturalists, including plant collectors: "Journal of Researches, A Naturalist's Voyage," by C. Darwin, 1839 and other editions. "Himalayan Journals," by J. D. Hooker, 1854 and other editions. "Journal During Captain Cook's First Voyage," by Sir Joseph Banks (edited by J. H. Hooker), 1896. "Notes of a Naturalist in South America," by John Ball, 1887. "Three Years' Wanderings in the Northern Provinces of China, etc.," by R. Fortune, 1847 and 1857. See also other books by Fortune. "A Naturalist in Western China," by E. H. Wilson, 1913. "The Land of the Blue Poppy," by F. K. Ward, 1913. "On the Eaves of the World," by R. Farrer, 1917. "Journal During his Travels in North America, 1823-27," by D. Douglas, published by the Royal Horticultural Society, 1914.

NAMES OF PLANTS.—J. M. Co. Wicklow.—*Colletia cruciata*. This is not a true species, being really a form of *C. spinosa*.—"Verney."—The plant sent for identification is *Ornithogalum laetum*, a South African bulbous plant known in its native habitat as Chinkerieches and also as Pigeon's Milk. This plant may be grown in England in a conservatory. Propagation is carried out by means of the offsets.—A Devonshire Reader.—*Trachelium coruleum*.—A. E., Shalford.—*Cypripedium insigne*, a native of Nepal, this plant flowers every winter and will grow in a temperature of 50° to 60°.—E. S., Sussex.—*Linaria Cymbalaria* (Ivy-leaved Toadflax).—A. H. S., Guildford.—1. *Lonicera Standishii*; 2. *Juniperus chinensis*; 3. *Sequoia sempervirens*; 4. *Abies* sp. (specimen not in character); 5. *Cupressus Lawsoniana*; 6. *Tsuga mertensiana*; 7. *Abies Nordmanniana*; 8. *Pinus Laricio*; 9. *Cupressus Lawsoniana* var. *erecta* var. *viridis*; 10. *Sequoia gigantea*; 11. *Pinus excelsa*; 12. *P. Cembra*; 13. *F. sylvestris*; 14. *Pinus* sp. (specimen too poor); 15. *Cupressus Lawsoniana* var. *lutea*; 16. *Juniperus chinensis* var. *aurea*.

NAMES OF FRUIT.—A. H. S., Guildford.—Apples: 1. *Cellini*, late fruit; 2. *Lemon Pippin*; 3. *Cockle Pippin*; 4. *Waltham Abbey Seedling*. Pear too decayed to identify.—New Reader, Windermere.—Apple *Christmas Pearmain*.

CATALOGUES RECEIVED.

W. Drummond and Sons, Limited, 57 and 58, Dawson Street, Dublin; Flower and Vegetable Seeds.
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Barr and Sons, 11, 12, and 13, King Street, Covent Garden, London: Flower and Vegetable Seeds.
Samsons, Limited, 8 and 10, Portland Street, Kilmarnock: Flower and Vegetable Seeds.
McHattie and Co., Northgate Street, Chester: Flower and Vegetable Seeds.
E. P. Dixon and Sons, Limited, Paragon Square, Hull: Flower and Vegetable Seeds.
Austin and McAslan, 89 to 95, Mitchell Street, Glasgow: Flower and Vegetable Seeds.
Anthony C. Van der Schoot, Hillegom, Holland: Spring List of Bulbs and Perennial Plants.
Daniels Bros., Limited, Norwich: General Catalogue.
Bowell and Skarratt, Cemetery Road, Cheltenham: Rock Plants and Shrubs for the Rockery.

ORCHARD

GARDEN

WOODLAND

Vol. LXXXVI.—No. 2620.

Saturday, February 4, 1922

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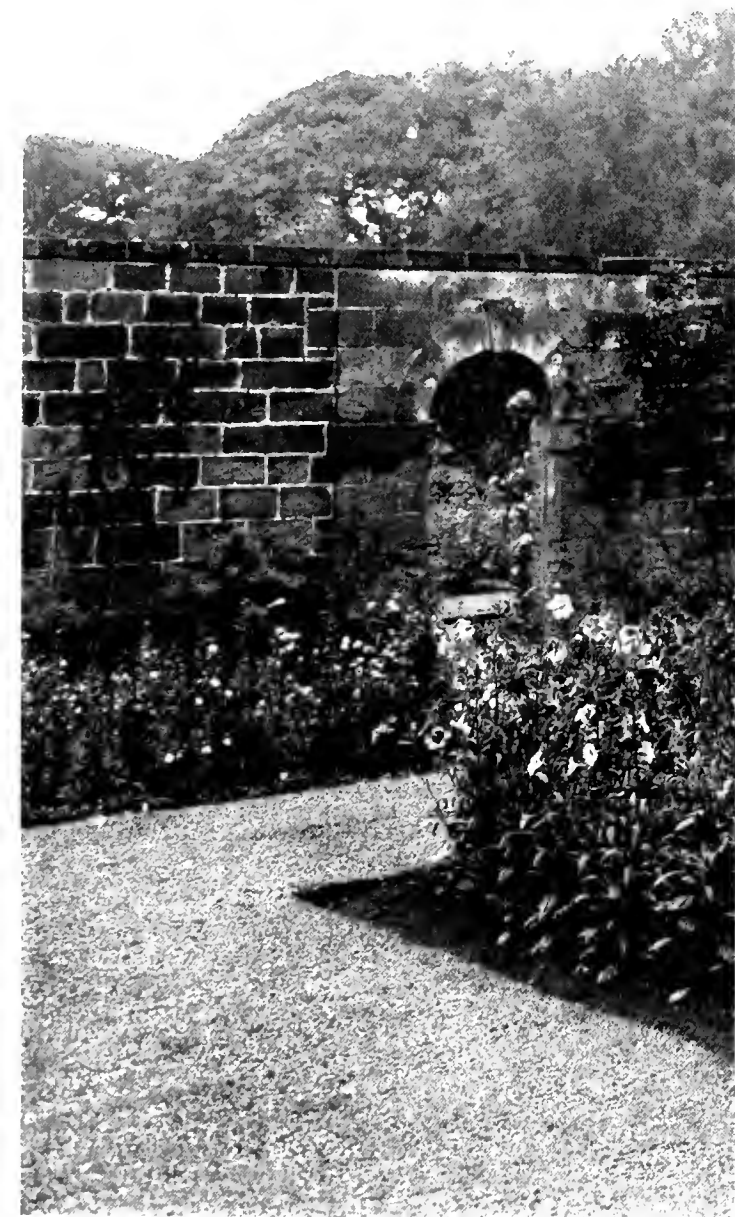
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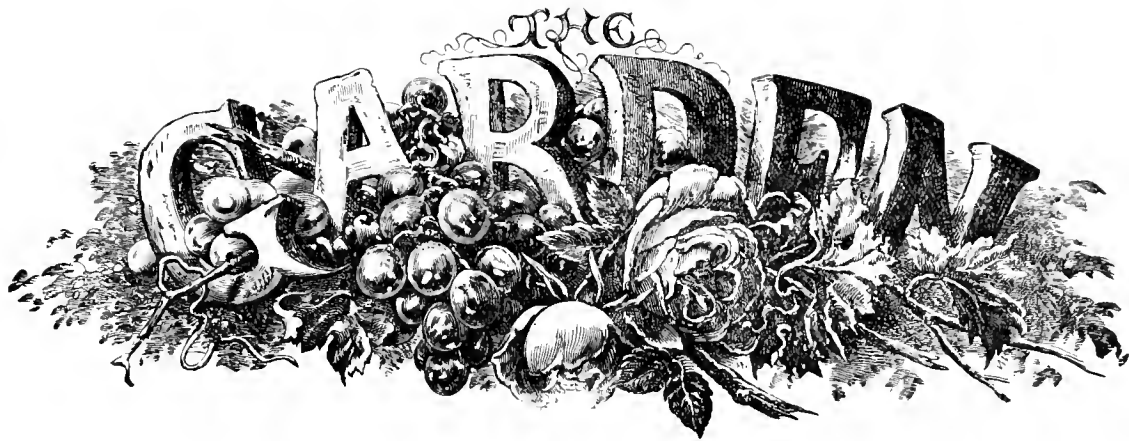
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No. 2620.—Vol. LXXXVI.]

NOTES OF THE WEEK

[FEBRUARY 4, 1922.]

SWEET PEAS IN BLOOM.

Like sunset clouds that cluster in the west
When the daylight passes on and night descends;
Like cheeks of children laid in Dreamland's quest,
Against soft pillows when the twilight ends.

Like a veil of purple mist above the sea,
Low trailing where the sky and ocean meet,
Trembling to life at Daybreak's witchery—
Or like a pink shell crushed by passing feet.

No canvas half so rare as this could be;
No human hand could scatter tints so fair,
For in the Crypts of dreams and imagery,
No Artists live like Sea, and Sun, and Air.
San Francisco Bulletin. JACK BURROUGHS.

An International Show?—In last week's issue Mr. Harman Payne called attention to the length of time necessary to organise an International Show. It must be remembered, however, that much of the organisation and machinery appertaining to the last "International" is still in existence. This being so, it seems to us that it should easily be possible to carry out the Show in 1923 if steps be taken at once to proceed with the idea. It is true, of course, that enquiry needs to be made as to Continental fixtures, but to us 1923 seems much more likely to be free than 1924 or 1925, for instance. In any case, it is evident that it is high time thought was given to this question of an International Show.

The Postal Muddle.—Even the daily Press has been discussing the action of Messrs. Bees, Limited, in posting and—should we add?—printing their catalogues in Germany. There is, it is scarcely necessary to say, great difference of opinion as to the merits or demerits of the scheme in question. One party calls it "sordid commercialism," while another considers their action truly patriotic. Be this as it may—whatever the intention—the firm has certainly done good

service in once again calling attention to the anomaly that German firms can send literature here for a tiny fraction of the charge levied on the British producer or merchant. Another anomaly to which attention should be drawn is the singular arrangement by which magazines may be sent by post from London to the wilds of Alberta or Saskatchewan for less than from London to Reading! The Post Office is, in fact, trying to conduct its business on a system which if applied to any industrial concern could only mean speedy bankruptcy. Instead of a big turnover at a reasonable rate, which would foster trade and at the same time increase revenue, this misguided department has ever since the war been intent on a small business at an exorbitant price. The telegraphs still lose money, and the telephones, despite the heavy rates in operation, are none too efficient, and it is very doubtful if, even now, they are paying their way; yet the National Telephone Company before the Government "took over" was a prosperous and progressive concern. Its operations, however, were unfettered by red tape!

Agitate!—There is no need to make apology for once again bringing this question forward into the light of day. Dear postage, in all probability, hits the horticultural trades as badly

as any, and worse than many, and, though the public sometimes fail to realise it, heavy incidental expenses such as these must ultimately come out of the pockets of the purchaser. There is some hope that if a really strong protest is voiced, some relaxation of the present heavy impost may be afforded. The password for all who would shift the burden should be "Agitate!"

The Rose and the Thorn.—"Gather ye Roses while ye may!" Ay, but Roses have thorns, so where are the gardening gloves? There are on the market various devices for gathering flowers. An excellent one recently marketed is the Plucca pruner, which, in addition to being an excellent pruner with a detachable blade made of sword steel, has an attachment (easily removed if not required) which enables one to gather Roses without fear of thorns, or flowers, at arm's length, without danger of dropping and soiling or bruising them. It is made in three sizes, the smallest suitable for pruning Rose trees and small enough and light enough for a lady's use, while the largest is strong enough for quite heavy pruning. The design is simple and straightforward, there is no possibility of pinching one's fingers—a common fault with many otherwise excellent secateurs—and, a particularly good point, every part is standardised and there is offered a complete set of replacement parts in case anything wears out or breaks.

Prune and Tie Up.—It is now a reasonable time to speak of pruning tools, since with the advent of February fruit-tree pruning should no longer be neglected. In the case of wall fruit trees, pruning will need following by tying in. Here consideration might well be given to the Everyman wall-clip, which represents the latest idea in this direction. With this the nails do not break, nor can the clips, once the nail is driven, become detached. It is immaterial in which direction the clip lies when the nail is driven, since it clips loosely and may be turned in any desired direction.



SWEET PEAS IN BLOOM.

SOME PERENNIAL PLANTS FROM SEED

Always a fascinating pursuit, the raising of perennials has in many gardens become a necessity from reasons of economy.

IT is unwise to postpone the sowing of such things as hardy Primulas until this season, as their germination is far less certain than if they were committed to the earth immediately they were ripe. There are, however, many perennials which are readily raised from seeds sown now, and it is not always, or indeed often, convenient to sow perennial seeds generally as they ripen. Again, in the case of varieties which it is desired to try and of which the seed must be bought, it seldom happens that one gives them a thought until, about New Year's Day, seed lists come to hand.

Some seeds are bought because the species or variety come true from seed; others, strangely

one is ambitious to raise new varieties, it is better in their case to leave seed-raising alone.

Seeds are the natural and proper means of increasing Aquilegias, but if the beautiful species are wanted true it is useless to save seeds from one's own plants. Reliance must be placed upon collected seeds purchased through some reliable seed-house. With the old-fashioned garden Columbines or the newer long-spurred hybrids the case is, of course, different. Here interest attaches rather to the immense variety than to their reproducing true. The seeds of these plants are very hard, and abundance of water is needed until germination takes place. This necessarily involves nicely textured soil and good drainage to begin

pod of a good persicifolia form is remarkable. These seedling forms have an abounding vigour very grateful to the gardener. Persicifolia is one of the readiest plants to increase by division, so that, except for new forms and increased vigour, it need not be raised from seed, but with *C. lactiflora* the case is different. This is a plant rather impatient of propagation. From seed many of the plants will lack the just colouring which everyone admires, but if the seeds were saved from the right form a percentage will come true, and the plant is so beautiful intrinsically and a few specimens will ultimately make such a fine clump that the trouble is well repaid.

Of the smaller species—many of them alpine—numbers are offered as seed from the ever-useful *carpatica* and the daintier *turbinata* to those minute alpine jewels *Waldsteiniana* and *Zoysii*. All the tap-rooted species, such as *Portenschlagiana* and *garganica*, should occasionally be renewed from seed, as the seedlings have a vigour very pleasant to see, as they spread from the rock-bound fissure in which their roots dwell, right across the massy boulders on either hand.

Seed is often offered of *Chrysanthemum maximum* usually So and So's "giants" or "Goliaths." The flowers from such strains are usually abominably rough and coarse. The wise gardener will, if he wants to try his hand at raising a new variety—and it is not easy—hybridise flowers of really first-rate kinds himself.

Few will wish to raise *Galega* from seed in all probability, but in case any do, it is worthy of mention that *G. carnea pleua*, which is a very distinct and pleasing form, appears to come true from seed.

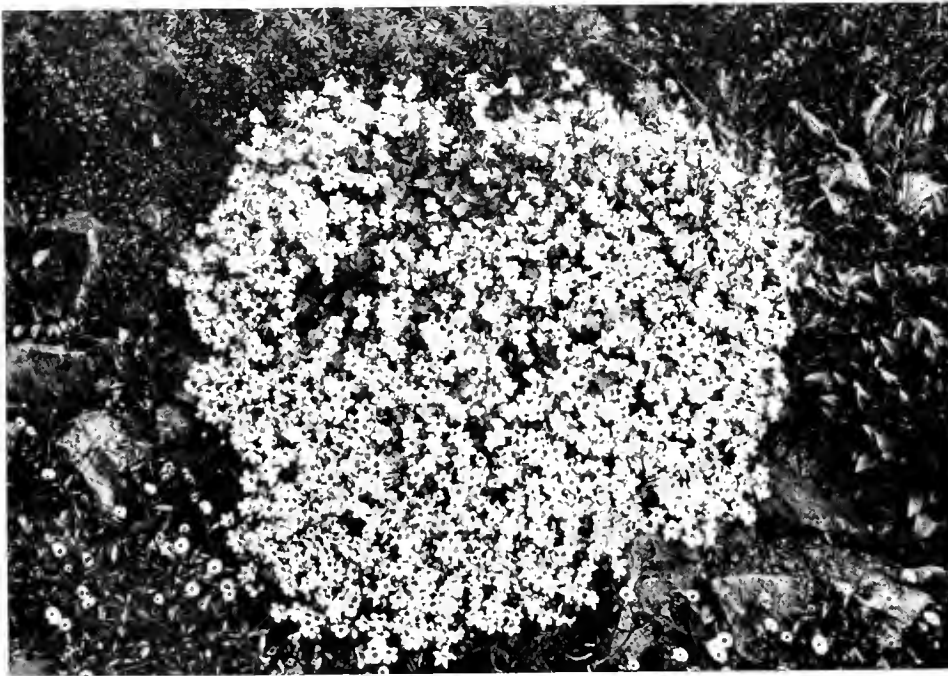
All the *Hypericums* come true from seed, and of them the name is legion; but unless extensive naturalising is contemplated, few will trouble to raise any except those beautiful trailers *repens* and *reptans*, which, though very distinct, are both invaluable for the rock garden.

The Torch Lilies—*Kniphofias* or *Tritomas*, as they are still often called—come readily from seed. *Uvaria grandiflora* is the variety usually listed, but the beautiful Express hybrids are often offered, and such remarkable and valuable species as *nobilis*, *caulescens*, *Northiæ* and *Tuckii* also may be obtained. These and, where space is limited, the charming little *pauciflora* forms are best worth attention.

Very easy to raise and very beautiful when raised are many of the Toad-flaxes (*Linaria*). *L. macedonica* is probably the best of the taller forms, while most of the trailing kinds are so readily propagated as hardly to be worth the trouble of raising from seed. This, however, does not apply to the beautiful *alpina* and its forms. This species is in our climate little better than a biennial, but it is so exquisite that few will grudge the slight labour of raising it. Indeed, on the moraine it will often naturalise itself from self-sown seed.

The true Flaxes are peculiarly suitable for cultivation from seed. They are readily raised so and difficult effectively to propagate otherwise. *Linum perenne*, *L. narbonneuse* and *L. alpinum* are invaluable, the last mentioned a gem for the rockery, but the pale yellow-flowered *arborescens* has many admirers.

Fairly easy to germinate and facile enough in really gritty compost is that quaint Cress, *Morisia*



IF PLANTS OF *CAMPANULA PORTENSCHLAGIANA* (*MURALIS*) ARE WANTED TO SMOTHER THE ROCK FACE IN THIS WAY, RECOURSE SHOULD BE HAD TO SEED-RAISING.

enough, because it does not. All the *Gypsophila* species may be considered to come true from seed, including the invaluable *paniculata* and the choice alpine *cerastioides*. The seedlings of *paniculata*, however, usually come, some with green stems, some with wiry black ones, which latter are, of course, more welcome. If plants be bought, however, they may very probably all turn out to be the green-stemmed kind. Even the double form of *G. paniculata* gives a fairly good percentage true from seed, while the remainder are, of course, the useful, if more ordinary, single kind.

Almost all *Geums* come true to colour from seed, and the alpine species, of course, come true. There are some very woody strains of *Geum* Mrs. Bradshaw on the market which have come about by saving seeds from unselected seedlings. This plant tends to lose size and character from seed, and unless re-selected it progressively and rapidly deteriorates. *Anchusas* do not come quite true from seed. They are readily and rapidly increased by means of root cuttings, so that unless

with, as *Aquilegias* by no means appreciate sour soil.

To those who contemplate raising Michaelmas Daisies from a casual packet of seeds, the best advice is, *don't*. The plants resulting are almost invariably dreadful weeds. If the spirit moves one carefully to cross-pollinate some of the varieties in one's garden, that is another story, though even then a large percentage of absolute "duds" must be looked for.

Easy and valuable plants to raise from seed are the *Bocconias*. Of the two species, both decorative, *cordata* is handsomer in creamy panicles, but *microcarpa* is the stately and has a little the nobler foliage.

Campanulas in general well repay the raising of any form worth growing. Some of the herbaceous species are, as most gardeners know, rather ineffective and "dead-nettley" in appearance, but it is well occasionally to raise the really worthy species from seed. The number of distinct forms and shades of colour which will come from a single

hypogæa. This is a really invaluable plant in hungry, well drained soil or, preferably, on the moraine.

Readily raised, so that the seeds be not smothered, the various species of *Mimulus* are so easily propagated by division that few will trouble to raise them. Very different in this respect are their water-loving neighbours the *Lythrum*s, which are easy to raise and come wonderfully true to type. The rose-coloured forms alone are usually grown in gardens, as few people like the rather startling magenta of the wild plant. The *Statice*s, again, are easy to obtain from seed, and if some of the plants of *S. latifolia*, for instance, lack the rich colouring of the best forms, they are not altogether wanting in charm.

The Meadow-Rues (*Thalictrum*s) form another family profitably raised from seed. *Aquilegifolium purpureum* and (especially) *diptero-carpum* are probably the best; but all are beautiful and, for the diversity they introduce, very useful in the mixed border. Such *Verbascum*s as *Miss Willmott*, which, however, throws a percentage of soft yellow forms, and *Harkness's Hybrid* should be obtained from seed, as should *V. phœniceum*, with flowers in many shades of lilac, rose and purple as well as pure white.

The herbaceous *Speedwells* (*Veronica*) are, generally speaking, easy to propagate vegetatively, also few of them come even approximately true from seed. The amateur, then, will be wise to pass them by when making out the seed order. The same remarks will apply to the hybrid *Erigeron*s, while no one not excessively fond of trouble will try to raise any of the true *Thistles* (*Eryngium*) except that fine biennial species *E. giganteum*. The *Globe Thistles* (*Echinops*), on the other hand, are readily raised and very handsome, and so are the alpine *Carlina*s, *acaulis* and *acanthifolia*. Of these the latter is the more worthy species. The sessile straw-coloured flowers in the centres of the great silvery rosettes are very remarkable. Strangely, *acaulis* is not, even on the Alps, stemless. The rosettes are handsome enough, but it becomes an ugly weed when it runs up to flower.

It is strongly to be recommended to raise most true alpine immediately the seeds are ripe. This particularly applies to such genera as *Gentiana*, *Primula*, *Anemone*, *Soldanella*, *Shortia*, *Pinguicula*,



THE CHARMING FORM OF THE CARPATHIAN BELL FLOWER USUALLY LISTED AS *CAMPANULA TURBINATA*.

and perhaps *Androsace*. It applies less forcibly to the last named genus, also to *Lithospermum*, *Onosma*, *Mertensia* and *Helleborus*, which take longer to germinate if kept, but do not so rapidly lose vitality. *Alyssum*s, *Aubrietia*s, *Æthionemas*, *Arabis*e—few will care to raise any but the choicest, such as *Sturrii*, *procurrens* or *Ferdinand-Coburgi*—*Drabas*, *Erodiums*, *Geranium*s, *Erysimum*s, *Iberis*e, alpine *Pinks* of sorts and the mossy *Saxifrage*s. The *Kabschia* and *Eu-aizoon* (*Encrusted*) forms of *Saxifrage* are quite raisable now, but, being choice, should wherever possible be given the best possible chance by sowing early—preferably as soon as ripe or obtainable from the collector. No reliance can be placed on home-grown seeds of the encrusted *Saxifrage*s coming true to type.

Almost invariably the seedlings prove to be natural hybrids of some kind. This to many people, however, affords but an additional fascination.

So far, broadly speaking, we have been considering plants which are recommendable to raise from seed because they come true. Incidental mention has, however, been made of such plants as the long-spurred *Aquilegia*s, which are valuable and interesting owing to their kaleidoscopic variations in colour. Another race of plants which makes a similar appeal is the herbaceous *Lupin* (*Lupinus polyphyllus*). The *Lupin*s, under the magic wand of the hybridist, gradually been translated until what used to be rather unattractive plants, with spires of purplish blue or dirty white, are now almost endless in variety and glorious in purity of colour. Rose pink, buff, yellow, mauve, blue and white all enter into the coloration of a good strain, some in practically self colour, the yellow and buff particularly in combination. Some of the forms charm by their seeming delicacy, alike of form and colouring. Others of more robust colouring make an equally sure appeal in their combined brilliance and purity.

*Gaillardia*s are readily raised from seed, and though the colour range is limited, yet the variations in form and to an even greater extent in arrangement of the colours are remarkable. These plants are apt to die out on some soils owing to winter wet. Where such is the case it will be found that the superior constitution of the seedlings is invaluable.

Seedling *Delphinium*s, even if raised from seed from one plant only, show considerable variation. Like the *Gaillardia*s, they have a vigour alien to the too often over-propagated named kinds, and it is wonderful how satisfactorily the very diverse colours group together.

Few plants are more easily raised—albeit not over-quick to germinate—than the hybrid *Pentstemon*s, which make so brave a show in late summer and autumn. If seed be bought of a really reliable strain, a large proportion of the seedlings will be really first-rate. They should include varieties of almost every shade of colour



THE HERBACEOUS LUPINS (*LUPINUS POLYPHYLLUS*) HAVE NOW AN EXTRAORDINARILY WIDE AND BEAUTIFUL RANGE OF COLOUR.

from all but pure white to crimson-scarlet in one range and to purplish maroon in the other with wide throats and huge flowers. Such results cannot be expected, however, from cheap seeds, as really good varieties seed but sparingly.

Methods of procedure calculated to assist and forward germination were mentioned in an article on perennial seed raising in *THE GARDEN* for December 24 last, so that there should be no need

to recapitulate. It may be worthy of note, however, that the Giant Parsnips (*Heraclium*), at all times slow to germinate, are all but impossible to raise within a finite time unless sown immediately the seeds are ripe. Like those of the Lotus of the Nile, the seeds seem to retain their vitality for a long time, but it is exceedingly difficult once they get thoroughly dry for moisture to penetrate to the germ.

ANNUALS FOR THE GREENHOUSE

The hardy and half-hardy annuals as used for greenhouse decoration are very effective and represent one possible method of economy in these days of dear fuel.

FOR a good many years now annuals, both hardy and half hardy, have steadily been increasing in favour for furnishing the greenhouse and conservatory. Tender annuals have, of course, always been largely used for this purpose. Some twenty-five to thirty years ago numbers of hardy and half hardy annuals were regularly grown for the conservatory or show house in the Royal Botanic Gardens, Kew, and the writer well remembers how many gardeners used to scoff at the idea of growing annuals in pots; and that, in spite of the fact that market men had regularly grown some favourite plant, such as Mignonette, for many years previously. The idea that such plants required no care in cultivation was a mistaken one, as many gardeners discovered when first they took up their cultivation. It is true that, given the right conditions and a knowledge of the plants, their successful cultivation presents few difficulties to a good grower. The gardener must know his plants, however; he must, for example, know which can safely be transplanted and differentiate them from the remainder, which will not stand pricking off with any degree of safety, and which must, therefore, be sown directly into their flowering pots. The cultivator must also bear in mind that any check, whether it be from over-watering or from dryness at the root, or, in fact, from any cause, will usually prove fatal, or at any rate, the grower will have very little chance of getting the plant into a healthy condition such as he would have with perennials. The life cycle of annuals, in fact, covers such a short period that there is little time for them to recuperate, so that if a batch of plants go wrong they might just as well be thrown away.

In speaking of this class of plant growers usually use the term "annual" in its broadest sense, frequently applying it to plants that are truly biennial, and in quite a number of cases really perennial. In a sense the term is correct when applied to any plant that for a particular purpose can be raised from seed and flowered within the same year. On the other hand, a good many annuals used for this purpose are treated as biennials being sown the previous year to that in which they are flowered, with this difference, however, that they are not sown so early as those which one regards as true biennials.

Now as to the essentials for successful cultivation: For most of them it is quite simple, needing merely cold frames and, as they approach the flowering stage and require more head room, cool houses. If the frames and houses are heated so much the better, not that much heat is required or even desirable, but during a spell of dull, damp weather it is often an advantage if a little heat can be turned on for an hour or so to dispel moisture and change the atmosphere. Generally speaking, however, the cooler they can be kept, with plenty

of air on all favourable occasions, the better will be the results. The chief aim should be to keep the plants strong and sturdy; but this is not always so easy as it would at first sight appear.



THE GODETIAS WITH THEIR SILVERY SHEEN ARE EXCELLENT FOR CULTURE UNDER GLASS.

A long spell of dull, sunless weather often results in weak and spindly growth. Again, not all houses are well adapted for growing successfully this class of plant; remember that plenty of light and air is essential, and at all stages of growth it is an advantage if the plants can be kept as near the roof glass as possible. As regards the time of sowing, there is no doubt that for some plants autumn is the best time, especially if fine large specimens are desired, but good results may be obtained by sowing almost all annuals now. This applies especially to such popular things as Mignonette, Clarkias, Godetias, Schizanthus, Larkspurs, Nemesias and Viscarias.

While autumn sowing is desirable and in many cases gives the best results, especially in the country where there is plenty of winter light, on the other hand, in the immediate neighbourhood of London and other large towns success is by no means so certain; this is mainly due to fogs and lack of light. It is hardly possible to keep them from making growth, and this is often so weak that it is not capable of supporting itself; needless to say, such plants take some time to recover when

better weather conditions do prevail early in the New Year. On this account we find at Kew that it is best to defer the sowing of most annuals for pot-work until the days commence to lengthen. It is true the resulting plants are not, as a rule, so large, but they do at least have a chance to make decent growth under the better weather conditions.

The maintenance of proper temperatures is important, and the chief thing to avoid is too much heat, bearing in mind that many of these plants are hardy and will stand outdoors, except, perhaps, on very heavy and cold, wet soils. Although in these cool conditions they may not make much top growth, they are, nevertheless, very active at the root. The temperature may fall, therefore, to freezing point—although this is not desirable—without any harm resulting. They should be kept at a steady temperature of 40° to 45° with plenty of air on all favourable occasions, taking care to avoid draughts, which are more harmful than a low temperature.

The temperature during the day may be allowed to rise 5° to 10° with sun heat without any harm resulting always provided ample ventilation is given.

Watering, needless to say, should be carefully done during the dull days. The seed pans or boxes should be made moderately firm; many cultivators err in this respect, making their seed bed too loose. In a loose medium, damping off is generally more troublesome, and in dealing with this class of plant damping off has generally to be guarded against. For this reason the seed should always be sown very thinly, and the resulting seedlings pricked off before they become crowded. In most cases the young seedlings are best pricked off directly they are large enough to handle into 48-sized pots; if larger pots are required they can be potted on as they require it. Whether they are grown singly or several in a pot depends largely on the variety of plant used. Again, some may require stopping or pinching to induce a bush habit; with others this is not necessary; in fact, some would not stand it. For example, Clarkias, Godetias and Schizanthus may be grown singly in pots, and generally with advantage may be stopped; whereas such slender growing things as Viscarias and Linarias will require five or six plants to furnish a pot properly.

No artificial manures should be added to the potting soil, but when they have well filled their flowering pots with roots and are growing freely they will benefit by frequent applications of clear soot-water and diluted liquid manure; guano, which is a safe, all-round fertiliser, may also be used at the rate of 4 ozs. to a three-gallon can of water. In applying manures it is always safe to use them weak and often.

The foregoing remarks on the cultivation of hardy and half hardy annuals in pots applies generally to the more tender greenhouse annuals, with the exception that they for the most part may with advantage be grown in a higher temperature. Celosias, for example, are best grown in a temperature of 50° to 60°. All of them, of course, when in flower, will stand in the cool greenhouse.

A short list of the various sections may prove helpful to readers who have not yet attempted the cultivation of this class of plant. The following may with advantage be sown now: Mignonette, Clarkias, of which there are now many fine varieties; Godetias, especially Schamini fl.-pl. and variety Rosy Morn; also Godetia Lavender. I cannot understand why this beautiful variety is not more generally grown. It is, I suspect, an improved form of *G. tenella*, or to be correct, (*Enothera tenella*), as all Godetias are now botanically included in *Enothera*. Antirrhinums, although not

A BORDER OF HARDY ANNUALS

Being "Somers'" promised further suggestions for its planning.

strictly annuals, will give good results if sown now. Sweet Peas, Schizanthus, Viscarias, Nicotiana Sanderæ, Delphinium Ajacis vars., the tall, branching Rocket Larkspurs, also the beautiful Stock-flowered Rosy Scarlet

In addition to the above the following may be sown now: Alonsoas, Browallia elata, blue and white; the dwarf forms of Coreopsis tinctoria, Chrysanthemum carinatum varieties, also C. segetum vars. Morning and Evening Star; Collinsia bicolor and candidissima, Gilia dianthoides, Helichrysums, Kochia trichophylla, for its foliage; Mina lobata, which may be trained up the roof; Nemophila insignis, which makes pretty baskets; Scabiosa atropurpurea, in many varieties; Schizanthus, of which there are many fine strains; also S. Wisetonensis and S. retusus, Statice Suworowi and S. sinuata, both blue and white; also Nemesia strumosa and N. Blue and White Gem.

Annuals that do not transplant readily but should be sown directly into their flowering pots are Mignonette, Acrocliniams, rose and white, very elegant everlastings; as also are Rhodanthe Manglesii and R. maculata, in rose and white; Hunnemannia fumarifolia, a beautiful Poppywort from California, is generally classed as a biennial or a short-lived perennial, but in this country it behaves as a hardy annual; Meconopsis heterophylla, the Sweet Sultans for which calcareous soil is essential, and Salpiglossis which can certainly be transplanted, but they are one of the most difficult of annuals to do well, so that it is wise to sow directly into their flowering pots.

The term greenhouse annuals, as generally used, is a pretty wide one, and may be applied to such plants as the Chinese Primula or Cineraria, which, if sown early enough, will flower the same year. Most so-called greenhouse annuals are—in the South at least—half hardy, that is, they will stand outdoors during the summer if they are raised indoors and then planted out. Some of those which are used for greenhouse decoration during summer and autumn are Amaranthus tricolor splendens, Aselepias curassavica, and Begonia semperflorens in many fine varieties may be treated as annuals; Browallia speciosa major, Celosia cristata and var. pyramidalis, Impatiens Balsamina (Balsams), I. Holstii and I. Sultani may also be treated as annuals, as may Ipomœa rubro-cœrulea, a beautiful blue-flowered climber; Lobelia tenuior (all the Lobelias may, in fact, be treated as annuals), Petunias, Thunbergia alata, Torenia Fournieri and T. Bailloni, also Exacum affine. The lists given are by no means exhaustive, but will serve to show the wide range of plants that may be used in this way for greenhouse decoration. Where only a very small and low house or houses are available there are quite a number of low-growing plants that could be used which are too small for the ordinary greenhouse. A few names will indicate what I mean; there is, for example, Sedum cœruleum, Diascia Barberæ, Ionopsidium acaule, Leptosiphons, Meconopsis heterophylla, Hunnemannia fumarifolia, Nycteria capensis and N. selaginoides. Grown in shallow pans some of the above plants could with advantage be used in the alpine house. If I may be allowed to sum up the essentials for success, they are: (1) Thin sowing; (2) pricking off the seedlings before they become crowded; (3) cool conditions at all times for the hardy kinds, with free exposure to light and air; (4) careful watering at all stages of their cultivation; (5) timely staking or support to such as require it.

If properly grown on these lines there should be little or no trouble from insect pests, but if aphids should appear several light fumigations will soon destroy it.

J. COURTIS.

TO my first instalment of suggestions for your summer border of hardy annuals (THE GARDEN, December 31), which I hope you found it possible to read, incomplete as it was, you will have observed that the Editor, by way of instructive gloss, has supplied a charming illustration, with the legend, "An Annual Border in the Kitchen Garden." My own garden is largely a kitchen garden; but never in my life, kitchen garden or elsewhere, have I had such an admirably graded flower border as this, the truth being that my taste does not run in the direction of exact gradations from zero, from Ionopsidium, let us say, to Sunflowers of a giant stature. This, however, is a free country, or at least was—Government having, so far, not seen its way to inhibit or tax individual taste in flower arrangement—so that if you should perhaps favour the "grand stand" order of flower border, I would say by all means have it. The illustration gives you something in this way which is decidedly effective and which would not, I should think, be hard to achieve. For myself, I confess that, owing to some kink in my mechanism, the exact seat of which I have not been able to trace, any obtrusive regularity of arrangement always irks me, my notion of comfort in a garden being plenty of everything, and a "most admired disorder." And THE GARDEN artist himself, whoever he was, who created the flowery slope of the illustration in question, must have desired to avoid the excessive use of rule and plummet, otherwise why, half way along his border, does he introduce a flowerless shrub of some size, a Camellia or a Laurel, as it looks to me. Probably he

placed the shrub there to serve the double purpose of breaking the uniformity of surface and of watering down what might otherwise be an excess of colour; though possibly the shrub was there to start with, in which case it was a happy accident. Anyhow, I have a premonition that your border is going to err rather by excess than by defect of colour, and the question at present therefore is whether, having no Camellias, Laurels or other shrubs to fall back upon, you can find among hardy annuals any effectual means of correcting a too monotonous uniformity of surface or unrestful glare of colour. You certainly can find one or two things which will serve the purpose quite as effectively as evergreen shrubs. There is Kochia, for instance, which is hardy enough, provided you do not sow

too early. For a soft green, you can hardly better this annual, arranged preferably in groups of several plants. In autumn, to be sure, the green will change to red, but by that time many of your annuals will have gone off, and you may be glad of some accession of colour. The Kochia will grow to a height of 2ft. or 3ft.; but if you should desire something really tall and striking, with graceful and characteristic foliage, then sow a few seeds of Hemp (Cannabis indica). Should these prosper and reach a height of 5ft



SHIRLEY POPPIES AND LIMNANTHES DOUGLASII.

Unlike the many-faceted scheme outlined by "Somers," this border charms by its very simplicity.

or so, you will have your friends asking "What handsome tropical plant is that which you have repeated here and there in your border, and how, not having a greenhouse or even a frame, did you ever manage to raise such things?" But distinguished in appearance and useful as this plant is, I find it omitted from the lists of some important firms, possibly because of its ignoble association with ropes and their purposes. Then there are various annual grasses which you must not overlook, partly for their softening grace in the border, but especially because of their usefulness as a setting for cut flowers, such as Poppies and Sweet Peas. If you grow only one grass, let it be Hordeum jubatum—a graceful Barley with long awns of spun glass. You may also like to grow

the Quaking Grasses (*Briza*)—"Silver Shckels," as I have heard them called. I do not myself particularly care for these grasses, preferring, by way of "Shckels," those of *Bromus brizæformis*, which is of similar habit, but larger in the shckels and altogether handsomer than the *Briza*, though not perhaps so easy to grow. Also there are the Bent and Love Grasses (*Agrostis* and *Eragrostis*) and the Hare's-tail (*Lagurus*); though as a foil for cut flowers, speaking for myself, I find *Hordeum jubatum*, supplemented by grasses from the wayside, all that I require for the purpose.

I fear I have all this time been suggesting the means of correcting an excess of colour in your border, without having yet told you how to create the colour that is to be corrected; but that is a simple matter. Your border has a width, you say, of 10ft. If, therefore, we allow a space of 3ft. at the back for your Sweet Pea and Nasturtium hedge, with an additional foot of free space to enable you to pass along the border and gather your Sweet Peas, and, if, further, we assign 1ft. of border space behind the stone edging for planting, among the stones, the various annuals of dwarf growth formerly specified, that will leave exactly a breadth of 5ft. to be filled with those taller things which must give the border its body of colour. Most of the gayer annuals range in height from 1ft. to 3ft. Naturally, without desiring a regularity that will seem too artificial, you will still wish to have your flowers placed where you can best see them, which means that they must be planted more or less in *échelon*. In the 5ft., therefore, still left to be furnished with annuals, I will suppose two zones of height, the front zone to be filled with annuals of from 1ft. to 2ft. in height, the zone behind with plants ranging from 2ft. to 5ft. As a quintette of annuals for the front zone, I can think of no better combination than *Mignonette*, *Clarkia*, *Godetia*, *Candytuft* and *Nigella*. As much has been written about *Mignonette*, I should think, as about Shakespeare; so I will say nothing about the favourite annual except this—that it is a mistake to suppose the sole charm of *Mignonette* to lie in its perfume, for if you procure the right strains you may also have a most attractive display of brown-crimson and orange heads of bloom. *Clarkia* I have only late learned to appreciate at its true value. It has no great range of colour, but, within its range, you will not easily find whites and pinks which for softness and delicacy can beat the shades of the best *Clarkias*; while the outline of flower and spray is the last word in graceful beauty. I think, however, that the purveyors of *Clarkia* seed have been straining too much after double forms of the flower, which seem to me to lose in grace what they gain in substance. I cannot say that I am as partial to the *Godetia* as to the *Clarkia*. Nevertheless, I know few flowers better entitled than the *Godetia* to the epithet "showy," the superlative of praise so much in favour with gardeners. As I know the *Godetia*, it is a somewhat squat and stiff, and therefore sturdy, plant, with Mallow-like blooms (though it is not a *Malva*), set along the stems with little or no pedicel, which characteristic renders the spray less desirable for cutting. But the merits of the flower outbalance its faults. In the border it is a useful annual, holding itself well up, and furnishing abundance of vivid colour, from crimson through a gamut of rose, salmon and flesh to lustrous white. Not the least remarkable feature of the *Godetia* bloom is its surface texture, which has the lustre of a sheeny silk. You will do much to ensure the gaiety of your border if you make a plentiful use of *Godetias*. As for *Candytuft*, it is one of the gayest, hardest and most accommodating of annuals, so much

so that the wonder is it is not a common wayside weed. At any rate, it is a desirable garden weed. Sow it anywhere, and it will respond with a harvest of bloom, ranging through shades of white, lilac, mauve and crimson. I suppose white and the more intense crimsons are the favourite *Candytuft* shades, though for my part I prefer the more delicate and restful intermediate shades of lilac and mauve; and I also like the plants to be as dwarf as possible, the *Candytuft* at its tallest having a tendency to straggle and being then not particularly desirable as a cut flower. Of the *Nigella*, the well named *Love-in-a-Mist*, as of *Mignonette*, little need be said. We all value it—leaf, flower and seedpod. I know no annual that winters better than this. I have *Niggellas* in a small border which have come up unsolicited, year after year, for ten successive years. The white *Nigella*, as I know it, I cannot recommend. Have your *Niggellas* as blue as you can get them, and as tall. If you desire yellows in this front zone you cannot better Marigolds, not the French and African half-hardy *Tagetes*, but the genuine old thing that grew in the garden of "Mary, Mary, quite contrary"—the *Calendula*, if I must speak by the card. In these, if you get the right strains, you will have rich lemons and oranges, single or double; and very possibly some of your friends who have hitherto associated the flower with the kitchen (I believe there is a *Calendula officinalis* strictly so called) may wonder why they have never until now perceived the great beauty of the Marigold. If you associate with your officinal Marigolds a clump of the South African *Calendula pluvialis*, you will have a charming, black-eyed, white-petalled, purple-shaded Daisy, a barometer in its way, as sensitive to changes in the weather as an aneroid. Barometer flowers, be it noted in passing, such as the *Eschscholtzia* (which, however, is rather a biennial, or even a perennial, than an annual), *C. pluvialis*, *Anagallis* and *Convolvulus minor*, though so brilliant in full sunshine, close their petals in the shade and are therefore of little use as cut flowers. If, however, you love a soft, velvety, light-absorbing texture in flowers rather than the lustrous, reflected brilliancy of such flowers as the *Godetia*, you can have nothing that will better repay expenditure of your pains and pence than a patch of *Convolvulus minor* on some spot near the front of your border, where the full sunlight may reach it. Again, if you should wish to have well forward in this part of your border a composite of the first water, grow Sweet Sultans, well named "Sweet," for sweet they are, as well as pretty, and, in addition, exceptionally good keepers as cut flowers. When I see a jar of well grown Sultans, white, mauve and yellow, in a florist's window, I seem to find in them a high-bred distinction all their own, even in the near neighbourhood of such distinguished flowers as the Lily and the Rose. Besides those above noted there are other fine annuals of medium height, the bare mention of which is the only commendation I have space to give them—*Gypsophila elegans* (as fine as *paniculata*, if not finer), *Linum coccineum* (should you desire a good self crimson), *Dianthus Heddewigii* (very gorgeous when in good form), annual *Chrysanthemums* (tricolor and others), the dwarf *Nasturtiums* (which alone might furnish the front of your border), annual *Lupinus*, white, red, blue and yellow (some of them sweet scented), and the *Viscaria* (good for cutting).

The taller annuals required for the hinter-land zone of your border, if not so abundant as those of a dwarfer stature, are sufficiently numerous to allow a wide choice. If the space were mine I think I should fill it entirely with Cornflowers and Poppies. By "Cornflower" I mean the

Mazarine blue single Centaury that really does grow among the Corn, not the purple, mauve, pink and white forms into which the flower has sported in the hands of gardeners; though these sports, too, have a beauty of their own, and are not to be despised by those who like to see one species in many shades. If, however, you should wish to fill this part of your border with one splendid species in an infinity of pretty shades, try the Larkspur. It has not the stature and dignity of the Delphinium, nor, I think, has it that flower's absolute purity of blue; but it has points of advantage even over its perennial congener, in its finely cut foliage and its stocky candelabrum habit. Further, it has a wide range of colour, blue, purple, pink, mauve and white, and even scarlet, if you trust catalogue descriptions, though I cannot say that I have ever seen a scarlet Larkspur. A malvaceous plant for which you ought to find a place, if not in this zone, certainly somewhere in your border, is *Lavatera splendens*, to be had in a soft milky white and in two shades of pink. A lovely clean-looking Mallow is the *Lavatera*. Should you wish for a dash of yellow in this zone of your border, you might try *Coreopsis* of sorts, *Helichrysms*, *Rudbeckias* and *Sunflowers* of medium height. The *Sunflower* in its numerous varieties would furnish a border in itself, and associated with other flowers and in sufficient quantity it gives a mediæval touch to the garden not unacceptable in these "petrolie" times. To look at a *Sunflower*, you might think it had been contrived a million million years ago, while Nature was still an apprentice to her trade—it is so simple and primitive in its lines. But the *Sunflower* is not so simple as it looks. As a work of art, a flower, I suppose, ought to be judged by the ingenuity and effectiveness of its machinery for reproduction, and in this respect the *Sunflower* might give points even to the *Orchid*. By all means, therefore, have some of these pre-Adamite flowers in your border. Some of the taller sorts—yellow, primrose and brown-red—planted along the foot of your Sweet Pea and Nasturtium hedge would give the finishing touch of dignity to your border.

You requested me to advise you as to the planting of an empty border, possession of which you hold for only one season, with plants which must flower the first summer, and which require no glass or heat to bring them on. This I have done pretty fully, but I hope you will not credit me with the unwisdom of advising you to grow *all* the annuals I have specified or commended, or even a third part of them. You must make your choice according to your tastes and aspirations. There are two kinds of flower-gardeners in this island of ours, the æsthetic, and the curious or discursive, though, of course, there are some who are neither, but partly one and partly the other. If you have been stung by the æsthetic gaddy, as I rather think you have, you will grow your flowers in mass, and your attention will be given to elaborating schemes and combinations of colour. Should your harmonies "pan out" as you expect, you will be gratified, but not surprised; and, of course, you will be correspondingly disappointed when your well laid schemes "gang agley," as those of mice and men so often do. If you belong to the "massing" school, you had better procure from a reliable firm a few good things (*Clarkias*, *Larkspurs*, etc.) in assorted colours. If, on the other hand, you are a gardener of the curious and discursive school, as mainly I am myself, you will prefer to have not much of anything but a little of many things, and may conceivably be venturesome enough to attempt half the things in Thompson and Morgan's list. In that case you will also have your reward and your disappointments—failures many, but,

on the credit side, delightful surprises, harmonies also, unpremeditated, but none the worse for that, and opportunities numberless of gratifying an

insatiable curiosity; and after all, among human pleasures, how many are there that wear so well as gratified curiosity? SOMERS.

Mendelism Vindicated: A Visit to Primula-Land

Some of the best varieties of Chinese Primulas described, with the lines of present progress and cultural hints. A hardier plant than is often imagined.

GR^{EAT} improvements have of late years been effected in the colour range and general character of the Chinese Primula (*P. sinensis*). This was made very apparent on a recent visit to Messrs. Sutton's trial grounds near Reading. Very remarkable indeed was the trueness to type of the as yet unrogued batches of the varieties already in commerce or to be placed on the market this season. Among these only one rogue was

All the popular giant forms show a generic similarity. The green-stemmed Giant White has a pretty soft pink counterpart in Giant Pink. For those who prefer dark-stemmed plants Giant Royal White is provided. This is equally as vigorous and beautiful as the green-stemmed form. Giant Scarlet is of bright and pleasing shade of colour, though it is a long way from scarlet in hue. It is scarcely necessary to say that there is no true scarlet Chinese Primula in

generally useful is probably Reading Pink. Shades of pink are always difficult to describe, and with the Primula the difficulty is increased by a little difference between flowers in varying stages of development and also a difference of tint noticeable with the varying season of the year. Suffice it, then, to say that Reading Pink is of a very pleasing shade of colour. It has, too, the additional merit of being very free-flowering, as the original centre spike is followed by numerous side spikes of almost equal size and vigour.

Of the so-called "blue" flowered forms, the three now cultivated in this section are Reading Blue, of a pale lilac tint, but quite pleasing, especially in association with Sutton's Coral Pink. The Czar is a bluish purple shade, not ineffective; indeed, by many much admired. Oxford Blue is an intermediate shade.

Etna will be familiar to many readers as the glowing crimson dark-foliaged variety which proved so effective at the shows last season. Of the white, pink-centred Duchess there is little need to speak, since a similar coloured strain under that name has been in commerce for close on twenty years. "Her grace" dates back to the days before Mendel's discoveries had been practically applied. It is interesting to note, none the less, that this form is the typical recessive found in the second generation (F₂) when a crimson form is crossed with a dark-stemmed white one.

To those interested in heredity the origin of the coral pink form is interesting. This was a true sport found in a batch of the then existing strain of Crimson King. It proved to be definitely and permanently fixed to type. There is, a little consideration will show, a well marked tendency for colour forms lying between crimson and blue to throw, especially under cultivation, sports of some clear shade of pink. Plants which readily come to mind in which this has occurred include *Primulas japonica* and *pulverulenta*, *Centaurea montana*—the form is called Lady Florence Hastings—and *Linaria alpina*. Almost all the wild species of Orchis of a purplish hue to be found in our meadows can also be found occasionally of a beautiful clear pink colour. The explanation would seem to lie in the fact that in some way a colour-bearing factor is dropped. With this factor it is evident that some of the plant's hardiness and vigour is but too apt to depart also. Sutton's Coral Pink *fimbriata* shows to some extent this tendency, inasmuch as it is somewhat less vigorous than the other colours. The beautiful coral pink *stellata* form of which we presently shall speak is, however, commendably robust, but then vigour is characteristic of all the Star Primulas.

Before considering these so-called Star forms—though they are now noticeably getting less starry—let us turn aside to look at a large batch of the double-flowered Queen of Pinks. Double-flowered Primulas there have been for a long time, and very useful they are to the florist, especially the white form, as the flowers when cut are very lasting. For greenhouse decoration, however, they are not so satisfactory owing to their unfortunate habit of hiding their blossom among the foliage. But a small percentage, too, usually comes true from seed. Queen of Pinks is of vigorous habit, the foliage is arranged to form an all but perfect rosette, and the flowers, which are rose-shaped, wonderfully double and even in appearance are borne well above the foliage. The beautiful colour of the blossoms, the large trusses and the fact that it reproduces itself quite true from seed all combine with the good points already enumerated to make this a very notable addition.

Of the older Star forms of *Primula sinensis* there is no need to speak; their value for decorative purposes is so well understood and so widely admitted. A novelty of which Messrs Sutton



THE SNOW-WHITE ("EYE-LESS") PRIMULA SINENSIS SILVER STAR.

noticed, namely, a delicate pink form in Sutton's Giant Royal White. This plant had the characteristic habit and dark stems of the type, and it was the only one distinctly untrue among several hundred plants of the variety.

Nor were the varieties in commerce or about to be placed on the market the only ones true to type. Many absolutely fixed stocks which cannot be in commerce for some few years were to be seen. The immense pains which are taken to improve strains by the famous Reading house may be illustrated by the variety Crimson King. The original Crimson King, though highly esteemed in its day, is a dowdy purplish shade compared to the Improved Crimson King which replaced it, but even this has a very "washed-out" appearance compared to the fine form now supplied under that name. There is, however, no such thing as finality. Already a strain, which records an improvement alike in colour and substance, is being worked up to replace the form already on the market. This is not an isolated instance: it typifies the care which is taken to select and reselect, so that the stocks sent out may be as nearly perfect as possible.

commerce, although—but of that anon. The peculiar value of Giant Scarlet lies in the fact that it is naturally the earliest of all to flower. From seeds sown in April plants may easily be had to blossom in November, or even, with a little management, in October.

There are several large-flowered "blue" forms, but so far no giant "blue" flowered strain in existence, or, at any rate, known at Reading. Messrs. Sutton have this season a plant of The Czar, which truly represents the giant-flowered form, but they are pessimistic as to the chances of perpetuating it. A similar break has occurred before, but they have always failed to harvest seed. It may be mentioned that all strains of *Primula sinensis* may readily be fixed with either palm or fern leaves, but the old palm-leaved type is a long way the more popular.

The older but very useful large-flowered *fimbriata* forms years ago superseded the original entire-edged form typical of the wild species, only themselves in a later day to be partially superseded by the more robust habited but entire-edged forms now called *stellata*. Of these large-flowered *fimbriata* forms the most

think highly is Symmetry, which will shortly be placed in commerce. Wonderfully vigorous and free, the flowers are much larger and more symmetrically formed than with the older stellatas. The colour is a shade of carmine rose, and to those who love pure bright colour this is its weakest point.

The writer found it easier to enthuse over the Improved Giant White Star. The flowers of this variety are even larger and more substantial than in the case of Symmetry, and they are freely produced and admirably carried. Sutton's Dark Blue Star is not really very deep in colour. It is, indeed, just of a shade to form an admirable foil for the truly beautiful Coral Pink Star which is probably to-day the most popular of greenhouse Primulas.

Messrs. Sutton have now turned their attention to a Star-flowered strain with a tiny white eye instead of the yellow one so characteristic of these Primulas. Typical of these is the rosy crimson Enchantress, which flowers quite as profusely as the older Star forms, and is very distinct and effective. Most extraordinary and fascinating, however—at least the writer found it so—is a pure white one which, having a white eye, becomes a real self-coloured form. The plant has dark foliage, and the freely produced spikes with two or more whorls of flowers are singularly un-Primula like. Messrs. Sutton compare the flowers to those of Primula "nivalis," but the tendency to "cup" so noticeable in P. "nivalis" is absent. The whole get-up of the spike (disregarding, of course, the foliage) reminds one forcibly of the White Champion (*Lychuis vespertina*). This variety, which is called Silver Star, should, once the public gets used to its unconventionality, become very popular for conservatory and room decoration.

Turning now to the breeding at present being carried on to provide new varieties in the not distant future, one of the first thoughts that strike one is the difficulty of selecting from the many forms raised the ones which the public will endorse. Some of the beautiful forms raised cannot, unfortunately, be fixed. Before any attempt is made to do this, however, many interesting types must of necessity be rejected. There are, for instance, what may be called The Sirdar forms. Sirdar is a mauve variety raised many years ago with a "wire" edge of white which gives it an appearance comparable to the old laced forms of Polyanthus. Judging from seedlings on view in the second generation of a Sirdar cross, there would appear to be no difficulty in reproducing this lacing in almost every colour. With the lacing goes a certain bizarre appearance of the whole truss created by variations in flower colour. The blossoms in this strain often open quite pale, but rapidly strengthen in colour. The question here is, do the public want such a strain?

Mendel's Law has been of inestimable service in systematising the raising of new Primulas. Before its principles were introduced an immense amount of labour was wasted because reliance was placed only on the first cross, which is, in fact, normally unfixable, and no effort was made to "self" the plants resulting from this cross and so allow to come forth the immense diversity of forms which is almost always, under such circumstances, produced. This notwithstanding, the Chinese Primula, though it usually follows fairly well the expected course, occasionally behaves in an inexplicable way. A certain cross now to be seen under trial has results very difficult of explanation. The names of the varieties are immaterial, but the facts are as follows: F₁ showed, surprisingly enough, little or no variation from the seed parent, although there appeared no reasonable doubt that the cross had taken. The plants were self-pollinated, and F₂ was raised

in the usual way. It was naturally expected that either (1) the original cross would prove not to have been effected, in which case the plants would reproduce the original seed parent, or (2) the seedlings would show a very considerable diversity alike in habit and colour of stem and flower. The fact is that the whole batch of plants are exactly similar in habit and colour of stem, and as far as one can see—they have not all flowered yet—precisely similar in blossom colour. They have, in fact, the exact appearance which one would have expected to find with the original cross the previous year. All natural phenomena are susceptible of explanation. There is room for the best brains to study this conundrum.

Messrs. Sutton have endeavoured to cross the golden yellow hybrid Primula kewensis (floribunda × verticillata) with a sinensis form. The resulting plants are yellow flowered and mealy—this is not uncommon with P. kewensis, though not a constant trait, but they assuredly have an unusual appearance, a little reminiscent, perhaps, of P. verticillata. One wonders has the cross, in fact, taken, or has the alien pollen merely served as a kind of catalytic agent to release some latent factor in the seed parent?

Plant breeding is a source of never-failing

interest, but space will not permit to discuss at greater length the results Messrs. Sutton are achieving, further than to say that if two types already raised prove fertile and fixable, the day is not distant when a true scarlet and an equally pure crimson (devoid of blue) will be added to the many attractive colours already in existence.

There is a fairly general misconception as to the hardiness of the Chinese Primula. The cooler the conditions under which they are grown so that frost be excluded the better. The only possible exception to this rule is fimbriata Coral Pink, which appreciates a few degrees more warmth, especially if overhead heating is provided. It should not, however, be coddled. Messrs. Sutton's main sowing is made about the middle of June, and the young plants remain in cold frames, with the lights off, until October. The frames are in full sun, and it must be very exceptional weather if any shade is afforded. The treatment given accounts, of course, for the robust, close and stocky growth upon which all visitors to the trial ground comment. In the south-west and elsewhere where hard frost is not experienced there is no reason whatever why these beautiful flowers should not be grown and flowered successfully in an unheated greenhouse.

SOW SNAPDRAGON SEEDS SOON

Anyone can grow Antirrhinums. With a little trouble anyone can grow them well. Alas! few do.

THESE are more in raising seedlings than dropping seeds in the soil. True, Antirrhinums are among the plants of simple requirements, and may be raised from seed with very little real difficulty, but the summer's display of bloom is largely dependent upon the proper observance of a few points in regard to the management of the tiny seedlings, and as it is now time to sow seeds for the production of plants to bloom from July to October, we may profitably meditate upon these few points.

It may be considered superfluous to say that the first essential is to procure seed of the highest possible quality, but the fact that there is, every season, enough sale of cheap, nondescript seed to encourage the vendors to continue their business in the same groove can only be interpreted as evidence that not everyone realises that only the best should be good enough to bother with, and there are few plants which show a more marked difference between the best and the "rest" than is shown in the seed stocks of Antirrhinums.

The soil in which the seeds are to be sown may very easily affect the whole career of the plant. Many people make a practice of sowing all seeds in sifted leaf mould alone. That is not conducive to success with Antirrhinums. The seedlings grow too rapidly and too soft at the outset, and soft, sappy growth at any stage in the development of an Antirrhinum plant is not conducive to the best results. It may be argued that any detriment may be avoided by using a soil of heavier texture when the pricking out stage is reached; but no, that will not do, for the roots that have started in a soft, light leafsoil will take longer to get hold of the heavier soil, and thus the seedling suffers a check. The best soil is a fibrous loam, into which a fairly liberal quantity of sharp sand is incorporated. The boxes should be shallow, not more than zins. deep, for if a greater depth of soil lies beneath the seed the roots go ramping through the whole body, and as they travel downward the tops become elongated with lengthy spaces between the joints.

What is wanted is a stiff, hard, short-jointed growth.

The seed should be sown thinly. It is far better to sow two boxes than to overcrowd one. Do not sow deeper below the surface than is necessary to hide the seed from view. The covering of fine soil should only be as thick as the seed itself. Do not pat and press the soil over the seed. Watering with a fine-rosed can will do all the settling required.

Antirrhinum seed requires but little heat. A temperature of 50° to 55° is better than one over 60°, and as soon as the seedlings show green through the soil, place the boxes on a shelf near the glass, where they will get the benefit of free circulation of air and plenty of light rather than the heat from closely adjacent hot-water pipes.

Do not let the seedlings get really dry or they will wither very quickly, but on the other hand carefully avoid over-watering as sodden soil will cause damping off.

As soon as four leaves are formed the seedlings should be pricked off, and in performing this task firm the soil at the roots. Loose soil is not good for Antirrhinums even in the earliest stages of growth.

For a few days after pricking out it is well to keep the plants in a close, but not overheated, atmosphere in order that there may be no loss of vitality through evaporation of moisture through the leaves. As soon as root action has restarted, ventilation should be given, cautiously for a day or two, and thenceforward freely, except when frosty winds prevail. The cooler the young plants are kept the sturdier and healthier they will be.

By the time the plants get to a height of zins, the points of the shoots should be pinched out, unless the aim is to grow one big spike of bloom to a plant, in which case the plants should be potted, kept near the glass, removing the lights entirely during the middle part of favourable days. When side shoots appear they should be pinched out to encourage concentration of strength in the central stem. These single-stemmed plants must not be allowed to become pot-bound before planting

out, but when planting is done the soil must be firmly trodden round the ball of roots.

The plants that are "pinched" will soon throw out side shoots, and if one aims at the highest possible success, the young plants should be potted off singly as soon as the side shoots have formed a couple of pairs of leaves. The advantage of the potting is that the plants will continue to make

steady progress, and will receive no check when eventually planted out. I have had plants treated in this way that have commenced to bloom before they have completed five months from seed sowing, and from the same plants I have had thirteen weeks' unbroken succession of bloom, a result that surely well repays the moderate demands made upon one's time.

A. J. MACSELF.

CORRESPONDENCE

A NATIONAL DAFFODIL SOCIETY.

WILL ITS SUPPORTERS PLEASE READ THIS?

I AM now in a position to say that the Royal Horticultural Society have most kindly placed a Lecture Room at the disposal of those who wish to talk over the formation of a National Daffodil Society on Wednesday afternoon, March 15. I accordingly ask all those who are interested in the proposal to note the date and try to make a point of attending. I think two o'clock would be

one and all look at it simply and naturally, without prejudice or other distracting thoughts! The real effort should be to encourage and so rope in year by year more and more members. It therefore seems self evident that unless those future supporters are brought into direct touch with the flower in question, no hope of real and steady advance can be expected. The most successful, that is, most widely successful, shows in the world are those that have a broad policy. In conclusion, bring the shows to the people! and bury once and for all



ONE OF THE MOST BEAUTIFUL OF PRIMULAS FOR THE ROCK GARDEN—PRIMULA × PUBESCENS ALBA, COMMONLY KNOWN IN GARDENS AS P. NIVALIS

the best time for the meeting to begin, as there are several schemes in the air which will need careful consideration. I hope the time and date will be found generally convenient. No objection to a meeting, as I suggested some time back on the second day of the Forced Bulb Show, has reached me. There is none down this year on the R.H.S. List of Fixtures; had there been one, however, this would very likely have been the date. As far as one can gather, opinion seems to be setting in three main directions: first, to leave things more or less as they are; second, to form a National, or it might be, better still, a British Daffodil Society, either incorporating or not incorporating the present Midland Society; and third, to establish a sort of Octopean Association of British Bulb Growers which, in addition to watching the interests of big and little growers of bulbs, would also hold shows and put out literature.—JOSEPH JACOB.

FROM the present controversy in your columns the formation of a National Daffodil Society would seem to an interested outsider at first sight to be a difficult and complex problem. But let us

the self-centred policy of some people.—AN OUTSIDER.

MR. ENGLEHEART appears to be in a minority of one, so I trust that he will not become a "Die-hard," but acquiesce, with a good grace, in the wishes of the majority.—BRODIE OF BRODIE.

"REQUIESCANT."

WOULD the gentle "Somers," "Rummager of the sylvan haunts," have us consign our Daffodils for ever to mead and moor, to waste their sweetness on the stilly glade, denying them the homage they receive at Vincent Square and other places, from us their worshippers, with our infernal din, irrational zeal and damnèd iteration? I like not "Somers'" phrases, Mr. Editor, and as for his—I was going to call it metre!—I shudder to think of the expression that would come into the serene poetic eye of immortal Horace, were he by some mischance to see the first part of column 1, page 9, Vol. LXXXVI of THE GARDEN. Let us fervently agree "Requiescant."—W. A. WATTS.

[Our correspondent seems not to have noticed the letter of Rev. G. H. Engleheart in our issue of

December 24. Poor "Somers," after all, only set another's sentiments to tune. Despite Mr. Watts' caustic criticism we think it unlikely that Horace would single out "Somers'" verses for especial detestation.—ED.]

WHAT IS THE ORIGIN OF PRIMULA NIVALIS (OF GARDENS)?

I CONSIDER this grand old plant one of the loveliest treasures that one can possibly have in the rock garden. It must be a very, very old garden plant; it is not really difficult to grow, and yet for some reason it is extremely scarce. Really, of course, it should not be called *nivalis*. The true *nivalis* is one of a group of extremely difficult, and therefore very rare, *Primulas*, most of which come from the East. In the *nivalis* group are such lovely things as *P. Farreri*, *P. chionantha* and *P. sino-purpurea*.

But the old *P. nivalis* of gardens belongs, of course, to the *hirsuta* fraternity. It has the woody stock of *P. hirsuta*, the same leaves, and a full round head of white *hirsuta* flowers, with all their delicious *Auricula* fragrance. Roughly, it is like a glorified albino *Primula hirsuta*. But what really is the plant, and when and where did it originate? Is it an albino form of *hirsuta*, collected wild; and, if so, who collected it, when and where? Or is it a chance garden seedling, or a hybrid? Who can say? I wish one of our careful plant historians, Mr. Brotherston, say, or Mr. Ingwersen, would investigate the matter and give us his conclusions. I have seen in certain Scottish gardens a plant which, except in colour, is almost identical with *nivalis*—the same leaf and habit, the same full rounded head, but the flowers are lilac or pinkish mauve. One might almost be a sport or a seedling from the other.

Whatever the origin of "*nivalis*," there can be little doubt that the whole stock has originated by division from our original plant. It is not a race of seedlings. There is never the slightest variation among the plants. The flowers are always "pin-eyed." What happens if you self-fertilise flowers of *nivalis* and sow the resulting seed? The answer in my case is disaster. I "selfed" several heads of *nivalis* flowers last year with the greatest care, obtained sound-looking seed, sowed it, and then some bright soul knocked the pan over, scattered all, scooped it up and stuffed it back, so that nothing happened—not even to the bright soul. I have asked two careful plantmen about "*nivalis*" seedlings, one of whom tells me that from "selfed" seed he got nothing but true white *nivalis* seedlings, while the other got coloured seedlings of all shades and no whites at all. So there you are! Meanwhile the old *Primula nivalis*—of gardens—which might perhaps be better called *P. hirsuta nivea*, being snow white, rather than snow haunting—continues one of the most charming of rock garden plants.

In the matter of culture it enjoys a cool position and a cool rich soil, rich especially in the sort of humus that retains moisture—stiffish loam with a good deal of leaf-mould and cow dung. Lastly, do not always be dividing it and chopping it up. It likes to spread quietly and steadily. It likes to get its leaf tufts off the ground, and it develops a leg for the purpose. It hates being continually messed about.—CLARENCE ELLIOTT, *Stevenage*.

[Mr. Elliott has raised a very interesting question. It was indeed a sad misfortune that his laboriously produced seed was lost. If, as Mr. Elliott thinks, however, the seed was fertile, what are his grounds for supposing that all the plants in commerce have been increased vegetatively from one? The pin-eye in *Primulas* (in *sinensis*, at any rate) is

recessive, so that one would expect the selfed progeny to be pin-eyed also many white forms breed true. We shall be glad to publish anything which will throw light on this very interesting and beautiful little plant.—ED.]

AN INTERNATIONAL DAISY SOCIETY?

THE arena of the much discussed "National Daffodil Society" is ground on which, I confess, I fear to tread; it is already crowded. Still, I have my own personal reasons for putting in my oar and bringing Mr. Engleheart to book on one point of his recent letter. Athenasius *contra mundum* is, I am well aware, abundantly able to take care of himself. Mr. Engleheart, however, must not suppose that he is always right. I have had, before now, occasion to question propositions which he has advanced with some seeming authority; though I am prepared to admit that even when I find him in error, Mr. Engleheart puts his errors in such cogent and convincing form that they are almost as persuasive as syllogisms. It is therefore with some hesitation that I take exception to his statement that the Daffodil does not sufficiently appeal to the populace, not so much as the Sweet Pea, he thinks, or the Rose. I do not know about that. For my part, I measure the popularity of a flower by the number of persons it brings more or less into the limelight. Why is there no "Royal Orchid Society"? "Because," Mr. Engleheart would answer, "Only Dives can possess Orchids. The purchase of one Orchid between them would leave Tom, Dick and Harry bankrupt." A poor argument, surely. I do not know about Tom, Dick and Harry; but look at the number of patrons, presidents, vice-presidents, chairmen of committees, members of committees and sub-committees, treasurers and vice-treasurers, secretaries, sub-secretaries and assistants to sub-secretaries, editors, sub-editors, auditors and the like, whose names it would be possible to put on the prospectus of such a society and in the annual reports, gratifying, in this simple way, for so many, a harmless ambition. I know of one Daffodil Society already in existence which pursues the modest tenor of its way from year to year, and which, without arrogating to itself the name of "National," brings up to the footlights many persons who, without its help, might have been left to "blush unseen"—namely, one president, eighteen vice-presidents, one hon. treasurer, one hon. secretary, one chairman of committees, seventeen members of committee, and twelve members of sub-committee.

I admit that in challenging this one point in a case otherwise convincingly put by Mr. Engleheart, I have my own ulterior motive; the fact being that I have in my mind's eye, a society which, I suggest, should be termed "National" or, perhaps, bettering the suggestion of distinguished Narcissists, "International." It seems to me high time that we had an "International Daisy Society." When, therefore, this Daffodil storm subsides, I may possibly find it advisable to call a meeting of other distinguished Daisivists with the view of establishing an "International Daisy Society," under the patronage of the President of the United States and the Crowned Heads of Europe—with, I need hardly say, myself as Founder, and a full complement of officials, sub-officials and sub-sub-officials, the number of the said officials (whatever powerful arguments may be advanced to the contrary) to be strictly limited to 120. It I have my way—as, of course, being founder, I shall have—the I.D.S. will have its home at the most central spot available, say, Edgbaston.—SOMERS.

"SOMERS" has bettered the Rev. J. Jacob's suggestion (in last week's issue) of further nuts

for the coffin of Mistress Daffodil: he has planted the Daisies but—is she buried?—ED.]

A PRUNING QUERY.

I HAVE been interested in the articles on Pruning by your correspondents, Messrs. O. Thomas and Pearson. I have just planted a maiden fan-trained Apricot tree, having one shoot about 2ft. long on one side, two shoots about the same length on the other side, and a strong leader, say, 3½ft. long. What would be the difference in the pruning of this tree by the two gentlemen mentioned. I thought to head back the leader to half the length and reduce the three side branches by about a third of the length. I should much like to hear the opinions of Messrs. O. Thomas and Pearson on the subject, or if too small a matter for their notice, perhaps the Editor would pass his criticism. Trusting I have not encroached too much on your space.—F. W. HARRIS.

THE SEED OF A FLOWER.

Alone, unlovely, on the dark earth lying,
Naught in its form to stay the passing eye,
Rests a poor relic of a flower's past glory
Seemingly cast aside and left to die.

Yet in this shell a germ of life lies sleeping—
Promise of living beauty yet to be
And sum of all that passing years have gathered—
At once a record and a prophecy.

A glowing ember, from the sacred fire
Of one of Nature's floral altars taken,
Concealed within this humble form, has come
An answering fire in this far land to waken.

For on the slopes of some great Eastern mountain,
High o'er the plains where burns a tropic sun
The flower which bore it dwelt for generations
And there its course, long undisturbed, did run.

Till, Siren-like, it lured at last to slumber
One dauntless heart, now living but in name;
For the wild land that held the flower in beauty
Now holds the man who for that beauty came.

He passed through toil and hardship ere he found it,
Stayed until all its outward charms had flown,
Then saved the seed in which they now are lying
Unseen and still, to many an eye, unknown.

But when at length the genial warmth of heaven
And rain and air of earth their part shall play,
This morning star of life in darkness shining
Will pass into the splendour of the day.

A. E. SIMS.

A GRAND ANNUAL CLIMBER.

IN THE GARDEN of December 31 a writer recommends four climbing annuals to be used for covering twiggy stakes in the background of a border, namely, Sweet Peas, climbing Nasturtiums, Canary Creeper and Japanese Hop, and says he can think of no others. Now last spring (in April) I sowed the first two in the same way, alternated with Convolvulus major, and the Convolvulus was far and away the most successful of the three. The Sweet Peas in this particular position (at the back of a border of mixed annuals) flowered early and made poor growth, owing to lack of special preparation of the soil, the dry season and some unavoidable neglect. The Nasturtiums did not take kindly to the Hazel and Willow twigs with which I provided them. Being climbers of heavy growth they require solid support. They flourished a few yards away among old overgrown Rose bushes and on a Virginian Creeper-covered east wall, but they had little confidence

in the light temporary hedge and preferred to run along the ground. The Convolvulus, however, made up for the deficiencies of the other two climbers. I sowed three seeds to a clump. (They were afterwards joined to form a light hedge with extra stakes and twine.) The whole lot came from one 2d. packet of mixed seed. They made tremendous growth, were in flower when I returned from Italy in July, and lasted till the frost in November. The colours included a clear rose, blue, blue with crimson rays, white with bluish grey rays, pure white, and the most ethereal and delicate pale blues and pinks. They would, of course, be useless for an evening garden, as every flower is closed for good by 6 p.m.; but, considering that each flower lasts only for a day, the number of blooms appearing at one time is perfectly astonishing. I have seen the plants simply covered with flower day after day. The only time when they fail is in windy weather. The flowers are so delicate and easily torn that even a light breeze in the morning will destroy the flowers of the day, so that they would not be suitable for a draughty position. A curious fact may be noted. The blue flowers must be admired in good time in the morning. After eleven o'clock or thereabouts (varying a little according to the sunniness of the day) the blue takes a purplish tinge, and by three in the afternoon all the flowers which are not white are pink. There is not a blue one to be found. The same thing happens when a spray has been gathered and put in water and the flowers have opened in the house. It was probably owing to the hot, dry summer that Convolvulus major did so particularly well in East Yorkshire last year, but it is an old-fashioned flower which is well worth growing in a sunny and sheltered position.—RUTH BICKERSTETH, *Hyères*.

BUSY NATURE.

I NO longer wonder that Mr. Kettle's Lloyd George Raspberry and many other good things have been found as chance seedlings, when I have an object lesson of how Nature distributes seeds in my own garden. It is so striking that it may be of general interest. In the summer of 1916 one of my small greenhouses had either to be scrapped or re-erected. I chose the latter alternative. When the work was finished there was a narrow long space between two houses (3ft. by 20ft.). No wild vegetation of any kind appeared until 1917, as it was up till then filled with bulbs in pans and boxes, and kept clean. Since that time it has remained absolutely untouched. Last year (1921) I ate a ripe Strawberry (not a wild wood Strawberry by any means) and a ripe Raspberry gathered from self-sown seedlings in this narrow space. There is also a small Gooseberry bush and a Loganberry, which, however, up to the present have not flowered; several Birch trees, one now 8ft. high; a Salix of some kind, and, of course, a fair number of ordinary weeds. The Birches do not surprise me. There are four large trees in the garden and every year the seedlings are so numerous they are a perfect nuisance; the Loganberry does not surprise me, but where did the Strawberry, the Raspberry and the Gooseberry come from? I have had no Strawberries, Raspberries (except Hailshamberrys), or Gooseberries in the garden for at least twenty years. The nearest Raspberry canes are 200yds. off, and the nearest Strawberry plants quite a quarter of a mile. There are some Gooseberry bushes within 50yds., and I have about a dozen Loganberries. I can only imagine that birds were the distributing agency, as is so often the case; but that seeds of these three fruits should have so soon been dropped in such a small space is very striking. Other experiences would be interesting.—JOSEPH JACOB.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Asparagus.—Should new beds be contemplated, it would be best to have them prepared beforehand, not only to allow a settling down, but because when planting-time comes in early April there is such a pressure of important work to be dealt with that nothing which can be done now to expedite operations then should be left over. The beds should be thoroughly well made by deep digging and working in plenty of manure. It is essential that Asparagus has a well drained rooting medium, and to assist in arriving at this end the beds must be raised several inches above the level, and on heavy land a foot is advisable.

Cauliflowers.—Plants which were pricked out into frames during the autumn will be in better condition for planting out a little later if they are now lifted and placed in suitable sized pots. After potting, keep the frames closed for a while to enable the plants to pick up quickly, afterwards admitting plenty of air when weather conditions are favourable.

Cabbage Plot.—Any blanks in this plot should be filled up with plants from the autumn reserve seed-bed, at the same time making firm any plants loosened by the frequent strong winds. If the ground is workable, a light hoeing will be beneficial. Should there be any doubt about sufficient stock, sow some seed at once and germinate in a newly started fruit house. Prick out as soon as possible and keep the plants sturdy. By the end of March or early April these will be good plants, ready for putting out, and will come along very quickly afterwards.

Seakale.—Any further roots intended for forcing and which are still in the ground should now be lifted, thonged and stored in sand or soil in a cool place.

The Flower Garden.

Propagation.—This must now be rushed along where large supplies have to be dealt with. Where Lobelias, Coleus, etc., are still used for edging or groundwork a mild hotbed will be found the best way to quickly get any quantity rooted. Only a little depth of soil is required in the boxes, etc., and let this be light and sandy. Autumn-struck batches of different plants must be potted or boxed now and kept growing quickly in a suitable temperature.

Plants in Frames, such as Pentstemons, Calceolarias and Antirrhinums, should be occasionally examined and the soil stirred to sweeten it. On mild days an abundance of air should be given so that strong plants will be built up ready for removal to their permanent quarters.

Seeds of fibrous Begonias, Pentstemons, Verbenas, Antirrhinums, etc., of which the seedlings take some time to come to maturity, should be sown now, placing the former when sown in the warmest position. The sowing of seeds will now call for continual thought, and must be dealt with to suit the varying needs of the different places. By following the advice printed on seed packets from nearly all firms of repute even the beginner cannot go far astray, unless it be in sowing seeds too thickly sometimes and covering fine seeds too heavily.

The Hardy Fruit Garden.

Small Fruits of the rambling class, such as the Loganberry, Wineberry and the Parsley-leaved Bramble, not having yet received the necessary pruning should be seen to as soon as possible. The chief need is the removal of old wood and weakly shoots and the tipping of all weak ends of those shoots which are retained for this season's fruiting. If so desired, the planting of any of these bushes can be carried out right through the present month when weather conditions permit. See that all supports may be relied upon to carry through the season.

American Blight.—Trees badly infested with this pest should first of all be gone over with a fairly stiff brush and one of the insecticides advertised for its destruction. Afterwards a good syringing should be given, taking care that a thorough wetting is given to all parts of the trees affected. When it is known that a tree is also badly affected below ground with this pest an injection into the soil, when it is dry, of carbon bisulphide, keeping several feet away from the trunk, will probably kill it. The liquid must be kept from the roots. A couple of ounces should be sufficient unless on a very large tree; the injections of the soil should be given in several places. Quite a good syringing wash is a mixture

of soft soapy water with a wineglassful of paraffin added to every three gallons. Some also add quassia wash.

Fruit Under Glass.

Early Vines, whether growing in pots or borders, will require a little more heat as the buds swell and break. A night temperature of about 58° to 60° will suit, with a corresponding day rise. As the days lengthen and activity is more pronounced the atmosphere may be kept a little more humid, but this must not be excessive or soft, flabby leafage will be the result, especially if high temperatures are maintained. As soon as it can be determined which buds will be retained all the others should be rubbed off to avoid loss of energy. Particular care should be taken to see that Vines in pots do not suffer from root dryness. When watering is done let the whole ball of soil be well moistened through.

H. TURNER,

(Gardener to the Duke of Northumberland)
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Parsley.—Make a sowing of Parsley seed in a box or seed-pan and place in a moderately warm house or hotbed. In this way fine plants may be had ready for planting out in the open border immediately danger of severe frost is past. A colony may also be planted in a frame for earlier use. When sowing, choose a close-growing strain—Austin's West of Scotland Prize is very fine and can be justly commended either for competitive or ordinary purposes.

Cabbages.—Run the cultivator between the rows of the autumn-planted batch and make up any blanks from the reserve bed, at the same time making firm any that may have become loosened at the neck through the action of the wind. Sow seed of Sutton's April and Harbinger in boxes for pricking out into frames as a successional crop.

Peas.—A sowing should be made in boxes at this time for planting out in the open later on. Narrow boxes, about 4ft. long by 4 ins. wide and 5 ins. in depth, are admirable for this purpose. Place a thin layer of rough material in the bottom and then use a mixture of ordinary potting soil. Place the seeds about 2 ins. apart when sowing and press the soil firmly when finished. Germinate in an ordinary greenhouse temperature, afterwards transferring to a cold frame when the seedlings are about 1 in. high. We find Pilot and William the First Improved the hardest and most reliable varieties for our first crop.

Fruit Under Glass.

Vine Eyes.—Where it is desirable to raise young stock, now is the time to insert the eyes. Choose eyes from sound, thoroughly ripened wood, the most satisfactory being those generally found at the base of the laterals. The eye should be cut with about half an inch of wood on either side of the bud. Many growers root the eyes in turves, but small pots are best as less root-disturbance occurs when the time arrives for transferring to larger pots. Use a light loamy compost with some sharp sand added, and fill the pots up to within 1 in. of their rims. Place the eye on this and then cover over, leaving nothing but the bud showing on the surface. Plunge the pots in a propagating case in a house where a high temperature is being maintained.

The Hardy Fruit Garden.

Spraying of Fruit Trees.—Work among the hardy fruit trees should be sufficiently advanced to allow the work of spraying to be carried out before any appreciable swelling of the buds takes place. Calm weather is essential for spraying, as when a breeze springs up the spray can never be properly directed to all parts of the tree, and hence is wasted.

Planting Fruit Trees.—Where circumstances may have hindered the planting of bush fruits or trees during November the work may be successfully carried out during the present month. On the arrival of the trees from a nursery they should be planted immediately, provided the weather is suitable. Should bad conditions prevail, however, heel the plants into temporary quarters, taking care that the roots are never exposed to the air for any length of time or allowed to become dry.

The Flower Garden.

Lobelia.—Seed of this indispensable edging plant should be sown now, as owing to the excellence

and compact habit of the many varieties that selection can be made from, the necessity of raising Lobelia from cuttings has in a large measure ceased to exist. The variety Mrs. Clibran is very compact and the colouring is very attractive and irregular. Sow in well-drained seed-pans, using a light compost with a sprinkling of silver sand on the surface. Do not cover the seed, simply press the surface with a smooth board, cover the seed-pan with a piece of glass and place in brisk heat, shading from sunshine until germination takes place.

Pæony Moutan.—Examine the various plants of these and cut out any weak shoots; also cut away any dead points from last year's growths, cutting right back to the first strong bud. Many of the grafted Tree Pæonies are inclined to throw suckers; these should be removed directly they are observed. Give a generous mulch of well-rotted manure, afterwards dressing over with old potting soil.

JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock.

CONSERVATORY AND GREENHOUSE.

Lachenalias that up to now have been growing in cold frames may, as the inflorescences begin to show, with advantage be removed to a light and airy greenhouse. Like so many South African bulbous plants, their growing season is during our winter; it is therefore of prime importance that they should have as light a position as possible during the dull weather conditions that so generally prevail at that season. That and good cultivation during their growing period, when the bulbs must be built up for flowering next year, is the secret of success in this and, in fact, in all bulbous plants that have a definite period of rest. Lachenalias deserve to be more generally cultivated than they are, for although not very showy, they have a quiet charm which should appeal to many plant lovers, and their requirements are very few, simply a frame or cool house where they can be kept safe from frost. Early potting is essential, and this should not take place later than the end of August or beginning of September.

Ixias and Babianas are also natives of South Africa and, like Lachenalias, are grown in cold frames until they begin to throw up their flower-spikes, when it is an advantage if they can be removed to a light and airy greenhouse. They are, however, later in flowering than Lachenalias, and it is not usual to pot them until the end of September or beginning of October.

Tritonias also require the same cultural conditions. They are very beautiful and usually last a long time in flower. There are several species, but *T. crocata* and its varieties are those generally met with in cultivation.

Veltheima viridifolia and *V. glauca* are also natives of South Africa, and are at present beginning to throw up their flower-spikes. They are not showy plants, but they appeal to many people. Their flowers are not unlike Lachenalias in shape, and are of a rosy red colour, the red being spotted on a greenish or yellowish ground colour. If a batch of seedlings are raised, they vary considerably in depth of colouring in the perianth. Increase is effected generally by means of offsets, but seed should be more generally used, as by selection it should be possible to get improved forms. Like the other plants mentioned, these plants are valuable from the fact that they can be grown in a frame or cool greenhouse. They also require a resting period, but they should be kept growing as long as possible, gradually drying them off as the foliage turns yellow.

Trachelium cœruleum is a very useful blue-flowered plant for the greenhouse or conservatory. Seed if sown now will produce useful flowering plants for the stage towards the end of the summer. There is a white variety which is worth growing for the sake of contrast. Plants raised in this way last year and flowered in 6 in. pots make fine specimens 3 ft. to 4 ft. high if grown on the second year. Where such plants have been kept they should now be potted into 8 in. or 10 in. pots. They grow freely in ordinary good potting compost, as they are strong-rooting subjects, and they enjoy copious supplies of water and liberal feeding when they have filled their pots with roots. At all periods of their cultivation they only require cool greenhouse treatment.

Calceolarias of the large carpet bag type are great favourites with many cultivators, although personally the writer prefers the smaller-flowered and more elegant type represented by Cibrani, Allardii and various other strains. In any case the large-flowered varieties, where grown, should

receive attention as regards repotting as they require it, for good specimens demand ample pot room and rich compost. Some old mushroom-bed manure is ideal for mixing with the potting soil. Failing this, some dried cow manure rubbed through a sieve is excellent. The plants should only be potted moderately firm, as they enjoy a free root-run. At all times they must have cool, moist conditions, and they may with advantage be given a much lower temperature than that usually accorded them. In fact, I have grown some fine specimens by standing them at the bottom of a north wall during March, where they only had the protection of a canvas screen at night and during inclement weather. They are very subject to attacks of aphid, which should be prevented by frequent fumigation. Plants of C. Cibrani raised from cuttings last autumn should also be repotted as they require it.

J. COULTS.

Royal Botanic Gardens, Kew.

National Rose Society: Annual General Meeting.—The great success of the National Rose Society continues unabated. There was rather better attendance than usual at the Annual General Meeting held at the Caxton Hall, Westminster, at which Mr. E. J. Holland presided. That the members are satisfied with the conduct of affairs was fully evident, for the Annual Report was adopted without discussion and the meeting proceeded smoothly and pleasantly. That this faith is justified may be seen from the report, which records an increase of 1,604 in the membership during the past year—a record for this flourishing Society and, we imagine, a record unequalled by any other special floricultural society. The Council are not inclined to rest content even with 7,386 members, and on its behalf the President urged a further increase. The great success of four of last year's shows was remarked upon, particularly the autumn show, while it was regretted that, owing to unavoidable circumstances, chiefly climatic, the experimental New Rose Show on July 28 was not successful. The law of death has removed two very old members. Mr. George Paul was one of the very oldest members, and had continued his active interest in the Society almost to the day of his death. Mr. John Hart, another old and enthusiastic member, was a particularly successful amateur exhibitor. Turning to the financial statement, the President said that they regretted having to depart from the old custom of paying all debts during the year they were incurred, but during 1921 it had been found expedient to carry over the printer's bill of

£1,058 18s. 5d to 1922. This was principally for "The Enemies of the Rose" and the "Selected List of Roses," two popular and valuable publications, the stock of which was largely for issue to the present year's new members, so that, strictly, most of the amount belongs to 1922 and not the Society's year now ended. The Hon. Treasurer felt confident that by the end of the year this item would be cleared off and there would be a good credit balance. The announcement that the Dean Hole Memorial Medal has been awarded to Mr. Samuel McGredy was received with applause. It was regretted that Mr. McGredy had found it impossible to come from Ireland personally to receive the medal. Mr. McGredy has raised a record number of new Roses and holds over fifty of the Society's gold medals. Quite the most popular motion before the meeting was the vote of thanks to the genial Hon. Secretary, Mr. Courtney Page, to whose hard work was attributed much of the success of the Society. In responding, Mr. Page expressed the indebtedness to the trade and other members who had proposed so many new members, instancing Mr. H. R. Botwright, who had proposed seventy members. In giving some interesting particulars of the office work, he said that altogether over 2,500 letters had been answered and of these 1,300 dealt with technical questions. Of the 7,386 members, he said, only thirty-one had not paid their subscriptions, and he felt confident that this small number would be diminished before long. After the meeting the members were entertained to the customary tea, which was followed by an exhibition of the Society's latest lantern slides.

FORTHCOMING EVENTS.

February 6.—National Chrysanthemum Society's Annual Meeting, to be held in the Floral Committee Room at the Royal Horticultural Society's Hall at 6.30 p.m.

February 7.—Royal Caledonian Horticultural Society's Meeting.

February 8.—East Anglian Horticultural Society's Meeting. Sheffield Chrysanthemum Society's Meeting.

February 9.—Royal Gardeners' Orphan Fund Annual Meeting and Election.

February 14.—Royal Horticultural Society's Fortnightly Meeting. R.H.S. Annual General Meeting at 3 p.m.

Answers to Correspondents

NAMES OF PLANTS. (V. A. C., Cromer).—1, *Thuya dolabrata variegata*; 2, *Juniperus chinensis japonica aurea*; 3, *Cupressus Lawsoniana erecta viridis*; 4, *Thuya orientalis*; 5, *T. occidentalis*; 6, *Juniperus chinensis aurea*; 7, Probably *Juniperus* sp.; 8, *Juniperus chinensis*; 9, *Cupressus pisifera squarrosa*; 10, *Juniperus virginiana*.

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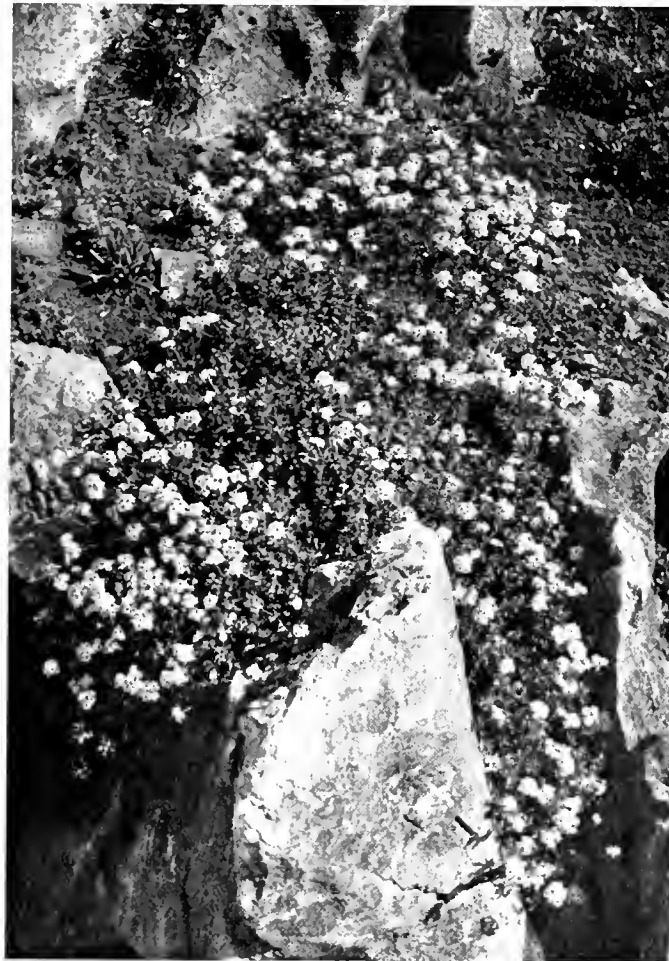
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Early Model Globe, best round variety	8
BORECOLI.	
Cottager's, one of the hardiest	8
Dwarf Green Curled Scotch, the best Dwarf	8
Asparagus, delicious flavour	8
BROCCOLI.	
Veitch's Self-Protecting Autumn	1
Snow's Winter White	1
Spring White, very hardy	1
Late Queen, the best late	1
Purple Sprouting, most useful hardy sort	8
White Sprouting, delicious flavour	1
BRUSSELS SPROUTS.	
The Wroxton, the very best	9
Darlington, dwarf robust, very productive	1
CABBAGE.	
Ellam's Early Dwarf Spring	10
First and Best, best for Autumn sowing	1
Blood Red Pickling, large solid heads	1
Drumhead (Savoy), best for general crop	8
CARROT.	
Early Nantes, for early crop	8
James Scarlet, best selected	8
Scarlet Intermediate, best for exhibition	8
CAULIFLOWER.	per pkt
Dean's Early Snowball, selected strain	6
All the Year Round, very distinct, large heads	6
Early London, best for general use	6
Veitch's Autumn Giant, best for use in Autumn	1
CELERY.	
All Leading Varieties	3
LEEK.	per oz
The Lyon, best and largest	1
Musselburgh, for general use	1
LETTUCE.	
All the Year Round, excellent and reliable	8
Wonderful, keeps tender a long time	9
Tom Thumb, best of the small-growing varieties	8
Giant Paris White (Cos), best for summer	8
Balloon (Cos), largest of all	9
ONION.	
Excelsior (true), packets 750 seeds 6d.	2
Ailea Craig, packets 750 seeds 6d.	2
White Spanish or Reading	1
Bedfordshire Champion	1
James Keeping, best for long keeping	1
Giant Zittau, one of the best keepers	1
Giant White Tripoli, best flat white onion	1
PARSNIP.	per oz.
Hollow Crown, specially selected	4
SPINACH.	
Summer or Winter	4
SHALLOTS.	per lb.
Best Selected Roots	6
TURNIP.	per oz.
Model White Stone	6
Extra Early Milan Purple-top	8
Golden Ball	6
PEAS,	
from 1/6 per pint	
AND	
BEANS,	
from 1/- per pint	
SCOTCH SEED POTATOES.	
ALL THE LEADING VARIETIES AT MODERATE PRICES. See Catalogue.	
ALL OTHER SEEDS EQUALLY CHEAP AND GOOD.	
SWEET PEAS A SPECIALITY.	
THEIR UNIQUE LISTS	
Post Free on application.	
ROBERT SYDENHAM LIMITED	



SINCE our reference, on January 21, to Mendel's Law, we have been inundated with articles upon the subject, all calculated to make clear its principles to the ignorant. Mendelism was, of course, introduced rather as an illustration than for its own sake. It is very doubtful whether the exposition of genetics can fairly be said to come within the province of a gardening paper. Be that as it may, it is certain that, to obtain the knowledge essential for plant breeding upon Mendelian lines, it would be necessary to purchase a text book upon the subject and to study it carefully and at leisure. For the benefit of

those, however, who are still puzzled by the occasional use of such words as Dominant and Recessive, it may be well to explain that Mendel's discoveries (and the discoveries of those who have carried out further experiments on the lines he laid down) have suggested that, just as all matter was by the Atomic Theory divided into ultimate particles called Atoms, so the proportions, colouring and other attributes of animate objects may ultimately be reduced to factors upon the recombination of which, or occasionally upon the removal of one or more, change of character depends. If, now, two plants or animals quite distinct in at least one outstanding particular be crossed, the factors will all combine together and the progeny (F_1 , as breeders call it) will normally be, approximately, a mean between the two parents. This fact is now well appreciated by poultry fanciers, who know that first crosses between two breeds combine in fixed, if unequal, proportions the characters of both, but that if bred from again, the progeny are what they are pleased to call mongrels.

Now, to come to the facts which are chiefly of interest to the plant breeder, if F_1 is self-fertilised, the resultant progeny (F_2) will show an enormous variety of offspring differing widely in every respect in which the original parents differed. Experiment has shown, none the less, that there is order in the variation. It is generally found in practice that the first cross (F_1) inclines somewhat to one or other parent as regards each particular character. That particular tendency may be said therefore to be dominant. Now in F_2 it will be found, under normal circumstances,



WHEN RE-MODELLING THE ROCK GARDEN THE BEAUTIFUL ANDROSACE LANUGINOSA AND ITS VARIETY, LEICHTLINI (ILLUSTRATED), SHOULD BE BORNE IN MIND.

themselves. Thus in briefest epitome Mendel's Law for the benefit of those who have not found time to follow modern developments in genetics.

Garden Economy.—There will be found in our Correspondence columns a reply to an article in our issue for January 28 which advocated the cultivation of dwarf Peas to the exclusion of those varieties which need sticks. There have been for long enough dwarf Pea enthusiasts and those who are quite the reverse; so much depends upon temperament, the supply and cost of sticks, soil and exposure, and the climatic conditions of each season. Nor is the question of labour all upon one side. Dwarf Peas, especially if unstaked, are scarcely suitable for ground which is, for any reason, at all foul, since they are much more troublesome to keep clean than those on sticks. Again, the garden owner who employs little labour outdoors may perhaps persuade the lady of the house or some of the frocked indoor staff to gather Runner Beans or Peas if neatly staked, where they would absolutely refuse to turn over haulm on the ground and perhaps disturb a few slugs or a worm or two! It will be seen, then, that economy in the garden is many-sided and must be thought out individually, since individual circumstances vary so enormously.

The Point of View.—Our correspondent, it will be noted, takes exception to the mention of "highly paid" labour in the original article. No sane person would, we think, consider gardening a well paid profession. Were it better paid, it would, no doubt, attract to the profession many who, as things are, regretfully turn their backs upon it and set their faces to openings less congenial. Still, if labour is not highly paid it is expensive, which from the point of view of the garden owner amounts to much the same thing. With an income approximating, on the average, to that he enjoyed pre-war, and with enormously increased taxation—how enormous has been the increase in taxation on incomes of any size the manual worker seldom stops to consider—the private employer of labour has, with terribly diminished resources, to pay his staff wages which, though relatively less than eight years ago, are actually very considerably more.

ROCK GARDENS AND ROCK GARDENS

A comparison of styles and a plea for a most satisfactory form of gardening which is available in little space.

NO phase of ornamental gardening can give more pleasure or charm in its infinite variety at a minimum of cost than rock gardening nor is there one which more forcibly appeals at the moment when tropical plants, or any plants demanding artificial heat, are practically taboo. There is none too better able to display tasteful arrangement by the artistic eye and ministering hand. Rock gardening is for all, from the cottage to the castle. None gives greater scope for planting than the judiciously arranged rockery in its varying aspects, ranging from warm and dry to cool and moist from sunshine to shadow; or provides finer facilities to cater for rooting tastes of the great alpine family including the more refined and delicate members of the bulbous tribe.

Of the making of rockeries there is much, of varieties many from the simple clearing and suitable planting of Nature's handiwork such as seen long ago in an old rectory garden on the Cotswolds, "rock-ribbed and ancient as the sun," to an ambitious endeavour of comparatively recent date aggressively conspicuous in a suburban garden, resulting in two huge symmetrical mounds nicely balanced on either side of a porched entrance, chiefly composed of soil larded with stone splinters vertically stuck in with that splendid regularity a French *chef* employs with his larding needles,

the crowning glory of the latter examples being something in the way of a noseless Venus on the one excrescence ogling an armless Adonis on the other. There are, of course, many triumphal stages between the two, and some wholly outside either, yet to the first named, although but a memory, one's heart goes out.

Back to the Cotswolds! What induced "t' Paason" to start converting that rough outlying Bramble-beset bank into a thing of beauty when rock gardening was practically gardening *incognito* or how he contrived to lure "Old Jarge," his gardener, from the sanctity of the walled-in old world kitchen garden and his beloved Tea Roses in "t' grinbus" is not known, but there was no question of its having resulted in an unqualified success. Such, too, might be oftener repeated to-day where natural opportunities occur. It was at this, the winter season, the twain started clearing the oolite strata embedded in a shelving bank, and there is no better time for the work than this dull time in our gardens, but the planting which succeeded the clearing in spring, it must be added was such as no orthodox gardener of to-day with a plethora list of alpine plants before him would be guilty of. It merely consisted of a few of the lesser Thymes, the little Harebells, *Campylopusium*, in white and blue; the old *Aubrietia deltoidea*, with a few of the commoner

Sedums and *Saxifragas*, not forgetting a host of self-sown seedlings of *Alyssum saxatile*, the inimitable Gold Dust of spring. All were inserted between the oolite ribs in a way that, as seen before leaving those dear, lonely Cotswold Hills of Gloucestershire, they made far stretching colonies or pretty cushion yards, or feet, in extent. It was all so perfectly simple but as a bit of natural adornment simply perfect and soul satisfying.

It is a question if, on the larger scale of rock building, there is anything finer in its way than Pulham's *chef-d'œuvre*, carried out for the late Lord Ardilaun when converting St. Stephen's Green into a public park for the citizens of Dublin. Anyway, no more honest praise could be afforded than its having been taken or rather mistaken, by a transatlantic visitor for Nature's handiwork, and that when Nature was in her happiest mood. Wholly different, less striking, but more interesting to the lover of hardy plants generally and alpine plants in particular, is the alpine border more

recently constructed from huge boulders by Mr. J. Kearney, the lately retired superintendent of the same picturesque city park. This contains quite an interesting collection of alpines nearly, but not obtrusively, labelled that all who run may read, and the value of such an educational factor



LARGE, WATER-WORN BOULDERS IN A ROCKERY AT ST. STEPHEN'S GREEN, DUBLIN.



ELABORATE ARTIFICIAL ROCKWORK AT ST. STEPHEN'S GREEN. DESPITE THE ARTIFICIAL CONSTRUCTION, ADMIRABLE IN ARRANGEMENT.

is endorsed by the many seen taking notes of species and varieties. For extent and variety in rockwork making and planting, nevertheless, the Royal Botanic Gardens, Glasnevin, some two miles from the G.P.O., Dublin, are in Ireland *facile princeps*, of which, more anon.

Rock gardening has "caught on" in our fine old Irish gardens around Dublin, apart from notable examples further afield. Some comparatively small examples, such as that of Mrs. George Mitchell's, Ardlui, Blackrock, afford some very happy inspirations for those interested. In this particular instance, although the rocks are naturally enough disposed, and tastefully planted, one gets in the forefront of it all, as it were, the keystone of character in one huge partly sunken rock, wearing evidence of its glacial migration, leading one to infer that the whole thing is a natural outcrop. Where water can be introduced it, of course, adds its own inimitable charm, and this is pleasantly illustrated by the pretty bog garden at St. Stephen's Green. Even on quite the small

scale—where the rocks appear to dip into but a very small pool—a plant of the unique Water Hawthorn. *Aponogeton distachyon*, now proved perfectly hardy, gives graciousness peculiarly its own. Many things flourish in the rock garden which merely exist on sufferance in the hardy flower border, while in not a few cases there is to

be found some rarity of the high alpine world spoken of by Mrs. Sigourney as

“ Meek dwellers mid yon terror-stricken cliffs,
With brows so pure and incense breathing lips ”

condescending to make itself quite happy and at home. K.

LILIUM AURATUM AT BRODICK

The following notes on the successful cultivation of Lilium auratum outdoors should be of general interest

FAMOUS as a summer resort and for the new varieties of Potatoes raised by Mr McKelvie, the Island of Arran on the Firth of Clyde has in a minor degree gained distinction for the culture of *Lilium auratum* in the open. Although favoured in winter by the absence of severe frost, the climate in summer and early autumn varies but little from that experienced on the Ayrshire

Some of the spikes were 6ft. high and carried from twenty-five to thirty-eight perfect blooms. The bulbs are lifted every fifth year, when the old soil is removed and a fresh compost of turfy loam, leaf-mould and a little old manure substituted. Beyond a surface dressing of blood manure each year when growth is beginning to show no further treatment or protection is given. The best results are obtained in the third and fourth year,



SOME OF THE WONDERFUL SPIKES OF FLOWER.

coast, fifteen to twenty miles to the east, and few gardeners would select Ormidale as an ideal spot for growing *Liliums*, as the situation is high and exposed to the north-east. When these conditions are taken into consideration, the results achieved are all the more surprising and suggest special treatment and skill.

The picturesque little village of Brodick nestles near the base of the mountain range that stretches across the island from west to east, and about a quarter of a mile from the village the grounds of Ormidale slope downwards towards the golf course and the main road. Plant life in the locality is vigorous and healthy. The cottage gardens, with their display of Roses, Sweet Peas, *Antirrhinums*, Poppies, etc., are the admiration and envy of the summer visitors, but the beauty of the garden at Ormidale is only visible at close quarters. There is a wide expanse of lawn in front of the house, and here the *Liliums* are grown in a series of beds which form a semicircle enclosed by a rustic pergola. The beauty of the setting is accentuated by a background of *Wichuraiana* Roses that come into bloom simultaneously with the *Liliums*. When seen in September last there were 180 heads in full bloom.

represented in the present cycle by 1921 and 1922. As the lawn both at back and front has a sharp dip, a photograph of a comprehensive character could not be taken, and the reproduction only shows the centre beds.

The gardens are worked by a young gardener single-handed, and on the occasion of the Caledonian Society's Exhibition at Edinburgh last September he staged seventeen heads of *Lilium auratum* which for size and purity of the blooms were a revelation alike to horticulturists and the general public. The judges awarded a silver medal but the exhibit was value for the higher honour. The smallest head carried thirty-two blooms and the largest forty-five and not one had suffered from the long journey by steamer and train, as the gardener had gone to the trouble of tying the blooms individually.

Encouraged by his success at Edinburgh he intends to put up a larger exhibit of *Lilium auratum* at the International Show at Glasgow in August. It is possible however that the same standard of excellence will not be obtained, as it is only in favourable seasons that the blooms are fully opened by the end of August. J. Y.

SOME BEAUTIFUL SALVIAS

In these days, when heat must be economised, the following notes on the Salvias flowering outdoors on the Riviera should be of interest. All those mentioned may be flowered in winter in a cool greenhouse, though some sorts need space for their accommodation. Many would, doubtless, succeed outdoors on our south-western seaboard.

IN days before the war Sir Thomas Hanbury used to send each year a list of the plants and shrubs in flower at La Mortola to the gardening papers. This year, if any such list is sent, it would be the most misleading and in some ways the most unsatisfactory record; for the long-prolonged drought has prevented so many things from growing on the Riviera that I am inclined to believe that many northern gardens would make a far better show—at least on paper. This month, I think, must be called the month of *Salvias*. Only one that I know of is fragrant to any ordinary nose, but there are so many that flower bravely in mid-winter that they are among the most indispensable of shrubs of medium height. They are showy and hardy, so free, so diverse in their stature and their colours. The pity is that they go by so many names in different gardens! The scarlet *Salvia splendens*, now past its season, is replaced by *Salvia gesneriflora*, a still finer thing and of much larger growth. It attains a height of 5ft. or 6ft. and is covered with bold spikes of large flowers for quite three months. There is a charming soft salmon-pink sport of this shrub that is quite indispensable in spring. Its colour is apt to fade in the full sunshine, so this lovely flower should be planted in the shade of an Orange tree or some other sheltering growth. *Salvia involucrata* (or *Salvia Bethelli*) is also another fine bold shrub, with rose-red flowers and brown bracts, of much beauty for a long period. It is slightly less hardy than *Salvia gesneriflora*, but only suffers when there is exceptional cold.

There are two charming violet-flowered or violet-calyxed *Salvias* that are quite indispensable to the winter garden. *Salvia eriocalyx* has white flowers that spring out of violet hairy calyces. The growth is neat and terminates in long sprays of dainty flowers. *Salvia chamaedrifolia* has brown calyces and rich violet flowers. This shrub is of rather loose and scrambling habit, though of particularly pretty foliage, and it is seen best either tied up to a post or to an Orange tree and cut back after flowering in March. This delightful shrub was one of the very few that withstood that terrible wind frost of 1920. The only one of the red-flowered section that stood that cruel night was the old and dainty *Salvia coccinea* so constantly in bloom at all seasons and yet so often neglected and forgotten. Two more scarlet-flowered *Salvias* of great beauty there are, and I never have satisfied myself as to the name of one, which has red-brown hairy calyces and small bright red flowers in long upright spikes. The foliage and growth are particularly bold and handsome and it deserves a place in any good garden. The other is well known under the name of *Salvia frutescens* and is almost a tree in stature with bold heads of scarlet bracted flowers in the style of *Salvia splendens*, but in branching clusters like a scarlet Lilac. In the months of November and December this tree *Salvia* can be quite glorious in its branching luxuriance, but it is such the most tender of all the *Salvias* I have mentioned and does not come to perfection every year. The fragrant *Salvia rutilans*, I have kept to the last. Its pineapple-scented leaves are well known in English gardens, but I have never seen it flower so

freely there as it does here; but though pretty, it is not of outstanding merit, and I should not know where to end if I embarked on the many and varied *Salvias* that can grow on these sunny shores and enjoy these periods of severe drought. In fact it is the absence or the presence of the autumn rains that on the Riviera determines the number of plants in flower on New Year's Day. I should think

there are fewer plants in flower this year than almost any other January I can record. The hardy plants that need the autumn rains to start them are still dormant, and the succulents and the more tender shrubs that enjoy heat and drought are in unusual beauty. I trust they may escape from serious damage this winter of 1921-22. E. H. WOODALL.

Winter-Flowering Shrubs at Glasnevin

BY LADY MOORE.

THAT handsome evergreen shrub, *RAPHIOLEPIS DELACOURI*, is supposed to be a hybrid between *R. ovata* and *R. indica*. It is of French origin; the plant in this garden was purchased from the well known firm of Chenault. It is an evergreen of thick-set, rounded form, about 4ft. high. The leaves are leathery, broadly oval, dark green,

and most welcome when it opens in the bleak month of December.

RHODODENDRON DAURICUM opened its cold-toned lilac flowers on January 3, quickly followed by *R. MUCRONULATUM*, whose larger flowers are of the same tint. *R. PARVIFOLIUM* has neat little heads of flower of a more pleasing colour, more blue and less magenta.



THE PINK-FLOWERED HYBRID, *RAPHIOLEPIS DELACOURI*.

The flowers are a bright rose pink produced in a stiff, upright panicle or raceme 3ins. to 4ins. in height. This plant has developed from a very small pot plant to a fine shrub. Supposed to flower in early summer, in May, 1921, it flowered sparsely, and again in November. It is to-day (January 14) covered with fully opened flowers, as well as many unopened inflorescences. It is planted in a sheltered border, nearly due south; toft, behind it there is a wall, with trees to the east which shade it from the morning sun. The flowers were uninjured by 8° of frost. It does not object to the poor, stiff limestone soil of Glasnevin, which in this part of the garden is not shallow.

SALIX DAPHNOIDES ACUTIFOLIA is a Willow which comes into flower in December. The catkins are borne on slender, arching twigs, violet coloured, covered with a plum-like bloom. The male catkins are very narrow and of a bright silver. This Willow is a native of Russia and Turkestan, and is also called *S. pruinosa*. For decorative work this Willow is useful and lovely,

Blue Primroses have been in flower since November. *Crocus Imperati* in short grass makes a gallant show on a sunny morning.

Of flowering shrubs *PRUNUS SUBHIRTELLA AUTUMNALIS*, sometimes called *P. Miqueliana*, is the bravest and best. It opened its first pretty pale pink flowers in the last week of October, and in spite of heavy rain, gales and 9° of frost, continues industriously to keep its branches a shower of bloom. Its usual flowering period here is from November to April. This most delightful and desirable shrub was imported from Japan by the late Mr. T. Smith, of Daisy Hill Newry. It should have a place in every garden, large or small.

[*Prunus subhirtella autumnalis* was illustrated in *THE GARDEN*, October 8, 1921, page 502.—Ed.]

CORNUS OFFICINALIS, also a native of Japan has been open since the first of the year. Its miniature yellow flowers, thickly set all over the twigs which branch gracefully, give the bush a very pleasing effect. It is most useful for table decoration, being light and graceful, and lasts well in water.

AUTUMN'S MATURER GLORY

The Cultivation of the Gladiolus.

IN America, where it has a special journal devoted to itself, published each month, the *Gladiolus* ranks as high as the *Rose* and the *Dahlia* do with us. No wonder! for it is one of the noblest ornaments of the summer and autumn garden, capable—when rightly used and grouped in masses—of forming the visitor by its brilliance. Did someone murmur the word "stiff"? Perhaps, but a stiffness with a great charm about it as the flowers stand in soldier-like erectness. Moreover, the stiffness is very largely lost when the spikes are merged one into another by the massed effect of great clumps in the garden.

When cut and placed in water in the house, this very stiffness becomes a virtue. Well placed in tall vases, with either their own or a little foliage of the common *Flag Iris*, there is nothing else in their season so imperial in appearance.

Culturally, all varieties and species appreciate best a loamy soil that is inclined to be heavy. A yellowish loam that is greasy to the touch is the ideal. Few of us have this, but fortunately the corms will do well in any soil that is in good condition and with which a little extra trouble is taken in preparation. The need is sufficient stiffness to retain water (so that the roots do not find themselves in an absolutely dry state), but drained, aerated and warmed by the addition of abundance of sand and grit. It is very often recommended to use cow manure for these flowers, well incorporating this with the soil at about 1ft. below the surface. While this treatment cannot be surpassed for a light soil, do not overlook the fact that in soils approaching the tenacity of clay stable manure with its quota of straw is from all points of view to be preferred. Naturally, dry soils are far "hungrier" than moist ones, and when dealing with these the quantity of manure used should be considerably increased.

It is scarcely possible to work the soil too deeply during the winter months previous to planting, 3ft. being none too much to trench, while the surface should be thrown up rough and left in ridges so that the maximum amount of weathering can take place. Whatever the nature of the soil, trenching cannot fail to improve its condition, make it warmer and more fertile and improve the drainage. I may seem to be labouring this point of soil preparation considerably, but it is one of the really vital items in culture, and far more depends upon its thoroughness and efficiency than all the after care that can be given to the plants. Lay your foundation well and truly in thorough and generous soil cultivation and you may plant your corms with the assurance of gorgeous spikes of flower, almost leaving the plants to grow themselves through the subsequent stages of their life. After culture, of course, is needed. I do not mean that last sentence literally, but so great is the importance of soil preparation that it overshadows all else until the great moment of planting comes.

This is best done towards the end of March, though, of course, we must be guided by the state of the soil and the state of the weather. The *Gladiolus*—in my experience—is far hardier than is generally supposed, the *Childsii*, *Lemoinei*, *nancejanus*, *gandavensis* and *brenehleyensis* sections all standing unharmed through the winter in light soils if left in by mistake, though inevitably there are losses if this is done as a regular thing. Still, it conveys a hint for the planter, and early

planting—or as early planting as is practicable—cannot be too strongly commended. Space enough must be given for sun and air to play their part, 12 ins. to 15 ins. apart and 4 ins. to 6 ins. deep being suitable where grown among other plants, or 6 ins. apart where grouped in borders. Use a trowel for planting; it is quite as expeditious as a dibber, and does not leave a hard ring round the edge of the corm. Corms vary in size with variety, and for a general rule one will not do better than cover the corm with soil to twice its depth.

As soon as the foliage has speared its way through, lighten the surface soil up with a Dutch hoe, one of the *Gladiolus* grower's greatest friends. A light and friable condition of the surface acts in exactly the same way as a mulch and keeps the soil, where the roots are, evenly moist. Water must be regularly supplied whenever drought occurs, though it is a mistake to be constantly pouring cold water on the ground. Thoroughly soak when it is required, hoe the surface the following day, giving each corm a little drop of liquid manure, and then leave until, by inserting the finger into the earth, one finds that water is really required again.

After flowering is completed, leave the corms in the soil for as long as the weather enables you to do so; then lift, and after a suitable period in a dry frost-proof shed, store in fibre until spring returns.

When lifting in autumn is the opportunity to propagate—or rather, one of them, for seeds are equally reliable, though slower. When you dig up the older corms you will find innumerable small offsets (spawn, as they are sometimes called), and these, varying from the size of a small pin's head to a pea, should be collected and "sown" in boxes of soil in the greenhouse, where they are grown on until large enough to be put out in drills in the open ground. Do not attempt to keep these cormlets dry through the winter; they are too small, and will simply perish. Sow them thinly as though they were seeds and keep as cool as possible through the winter. This, of course, reproduces the parent true to type, but if new varieties are desired, the only method of procuring these is by inter-crossing existing types while in flower and raising the seedlings from them to flowering size.

Fertilisation is quite a simple matter, readily performed by anyone; but great care is necessary to protect the stigma with muslin both before and after the operation. This excludes insect visitors of the winged type, and is sufficient for general purposes, though, of course, it is ineffective against thrips and minute insects, which may carry other foreign pollen grains to the receptive stigmas. This is a negligible factor, however, and can be disregarded, though it helps to explain occasional variations that cannot otherwise be accounted for.

Diseases and pests are not a serious worry to the *Gladiolus* grower, though wireworm is apt to be troublesome. Old gardens are usually free of this except where new soil is imported. The autumn trenching assists greatly in harrying these destructive creatures, for birds are constantly at work all winter, searching out and destroying them. Soil fumigation and trapping in slices of potatoes are also invaluable aids in reducing their numbers.

Red spider occasionally attacks them during hot summers, and very soon ruins the appearance of the plants, but this can always be held in check by occasional syringings with water and by hoeing the soil so that the roots do not become dry. The *Gladiolus* fungus (*Myriococcus fusan*) is a very destructive pest where the attack is severe, and prompt and drastic measures should at once

be taken to combat it. Burn all affected plants at once and dress the soil freely with flowers of sulphur, afterwards trenching 3 ft. deep, as this buries the spores of the fungus that may still be living too deeply for further harm to result. Before planting, if you have any reason to suspect that corms are

infected with this foul disease, dip them in a solution of one part of formaldehyde to five parts of water. They should remain in this for about two minutes, and it is a wise precaution to take with all newly purchased corms if you hold a large and valuable collection. H. W. CANNING-WRIGHT.

A NOTE ON THE POMEGRANATE AS AN ENGLISH WALL SHRUB

THE hot and sunny summer of 1921 almost made the Pomegranate forget how different is our climate from that of its original habitat and of its present normal culture. In many of our gardens—such as Matheron Palace, as the accompanying illustration shows—it not only bloomed freely but made a very good effort at fruiting. Yet Mr. George Nicholson, in his "Dictionary of Gardening," tells us that "in Britain, even its



THE POMEGRANATE RIPENING FRUIT OUTDOORS AT CHEPSTOW.

flowering is chiefly limited to the most exceptionally favoured localities," and I well remember when, at the end of a previous hot summer—1911, I should think—the Matheron Palace example behaved as it has recently done, that I mentioned the Pomegranate as a desirable garden subject to Mr. William Robinson, who assured me its bloom was so uncertain that he did not think it worth using in this country. I retaliated by mentioning Canon Ellacombe's free-flowering double variety at Bitton, and added that I had not only enjoyed much bloom from my own plant, but that it was actually developing its fruit. He was frankly incredulous, and I only brought conviction to his mind by posting him a specimen—I will not say edible or of imported size, but fully formed and coloured.

A native of Cabul and Persia, *Punica Granatum* became widely distributed and cultivated by the ancients. It was in early mediæval times so well established as a useful if not high flavoured fruit on both the north and south shores of the Mediterranean up to its most westerly limits, that our

Monkish writers on garden matters—who, as translators and adapters of their Latin predecessors, dealt more with southern than northern cultivation—not infrequently mention it under various spellings, such as "poumgarnet," while in 1533 Elyot, in his "Castel of Helth," tells us that "Pomegranates be of good iuyce and profitable to the stomacke." Shortly before that time it had obtained decorative popularity in England as one of the heraldic devices favoured by Catharine of Aragon, and so long as she was the favoured wife of Henry VIII his nobles and courtiers found place for it among the royal emblems which they embroidered on their bed-hangings or carved on their woodwork. Lord Chamberlain Sandys used it in both materials. With the arms of Aragon and Castile it may yet be seen much repeated on the wainscoting of the gallery at the Vyne, in the form of a twig with a leaf on one side, a flower on the other, and terminating with a fruit, split so as to show some of the seeds. In the inventory taken after Lord Sandys' death in 1541 we read of: "A riche bodd of greene velvet and saten, garnished with roses and pomegarnettes," which had no doubt been kept in the background in 1535 when King Hal, having divorced Catharine, brought her successor, Anne Boleyn, to visit his Chamberlain at the Vyne. Probably the Pomegranate plant had not at that time been cultivated in England, as we are told that it was first introduced here about 1600 by John Gerard. Its form, substance and colour commended it to the poets, so that Elizabethan Greene sings of "cheekes like faire pomegranade kernels, wash't in milk," while Georgian Thomson praises it in the lines:

"Nor, on its slender twigs
Now bending, be the full pomegranate scorned."

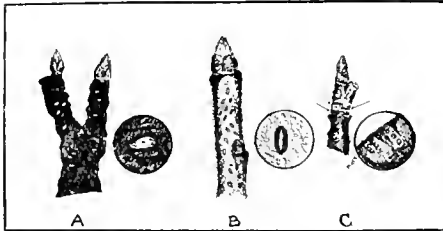
Which shows us that the characteristics of its habit at fruiting time were known to him, but whether in England or not is another matter. Treated as a wall shrub it is hardy, in many parts of England. Purton, near Swindon, is by no means a mild wintered place, but I well remember, in the summer of 1894, seeing a bloom-sprinkled plant growing right up the wall of a farmhouse in that parish. That is what caused me to plant one in the following year at Matheron, a warm and sheltered spot in Monmouthshire, near the Severn Estuary. It did not take many years to reach the eave of the two-storeyed building I set it against, and no winter frost, although it has encountered several that were quite severe, has ever even cut it back. It is, of course, deciduous, although its dark, glossy, substantial leaves have an evergreen look about them. I think that it has had some flowers every year, but in damp, cool summers only a few. Only the sun heat of a summer such as the last one brings forth its scarlet blooms in quantity and enables some of the blooms to set and swell the fruits as we see them growing on their boughs in the photograph taken and kindly lent by Mrs. MacNab, whose husband, Major MacNab, bought the place of me a couple of years ago. H. AVRAY TIPPING.

INSECT EGGS AND SPRING SPRAYING

"If insect ravages could be brought more under control by lessening the number of these destructives whenever they appear in excess, the benefit would exceed everything of which at present we have any conception."

—JOHN CURTIS, 1859.

MANY insect pests of fruit trees pass the winter in the egg stage, and these eggs are always deposited by the parent in such a position that the young on hatching find their food within easy access. Examination with a pocket lens of a few long wood shoots of last year's



INSECT EGGS—SHOWING POSITIONS FAVOURED FOR DEPOSITION.

A, *Apple sucker*. B, *Aphis*. C, *Red Spider*.

growth and a few short fruiting spurs of Apple will probably reveal the presence of some of these insect eggs. Those most likely to be located are the eggs of Apple aphid, red spider and Apple sucker. Three species of aphid are well known as attacking the Apple; they are: *Aphis pomi*, the permanent Apple aphid; *Aphis sorbi*, the rosy Apple aphid; *Aphis avenae*, the Apple-Oat aphid.

In the autumn these species all oviposit on the shoots of the Apple, selecting their sites according to the species, the eggs of the permanent Apple aphid being usually found on maidens in nursery beds and on "water sprouts" and weaker growths in established trees, while those of the other two species are found evenly distributed throughout the trees on the fruit spurs. With the former the distribution of eggs is very frequently local, two or three maidens in a row being badly infested with eggs and the others around them being quite free from infestation. The same state of affairs occurs in gardens and plantations where single trees only may be badly infested. In the case of the rosy Apple aphid and the Apple-Oat aphid, on the other hand, the eggs are deposited on the fruit spurs singly or two or three together, and the distribution is fairly even throughout the plantation.

Aphid eggs are small, black and shining, and are elliptical in shape. In length they are about .6mm., that is to say, arranged end to end, forty would measure about 1in. The general shape and arrangement are shown in the accompanying figure (B).

Since it is practically impossible to distinguish between the eggs of the different species mentioned, inferences only can be drawn, and these from the positions the eggs occupy on the shoots. The permanent aphid eggs are in dense masses among the hairy outgrowths on new wood, particularly on water sprouts, and are often so numerous as to give the shoot quite a blackened appearance. The eggs of the other two species are generally located at the bases of the buds on spurs or partly hidden in the crevices and scars about the spurs. They are probably never found in such numbers as in the case of the permanent form.

The eggs of the red spider are spherical and reddish; they are found in little clusters around the bases of buds, in the downy pubescence on the buds or in the scale scars on fruit spurs. They

are very minute, measuring about .16mm. in diameter, or side by side 160 would measure about 1in. In cases of bad infestation these eggs may be so numerous as to give the bases of the buds quite a reddish tint. They are fairly evenly distributed throughout the tree and the plantation (Fig. C).

Apple sucker eggs are described by Theobald in "Insect Pests of Fruit" as follows: "The ova, when first laid, are almost white, then they become creamy yellow, and later assume a faintly rusty red hue before hatching. . . . They are elongated oval in form, somewhat pointed at the ends, one of which is produced into a thin process which is apparently curled under the egg and cannot easily be seen unless the ovum is very carefully removed." A. H. Lees—"Annals of Applied Biology" Vol. II, No. 4, page 251—has shown that there is another process at the other end of the egg which "is hollow and is inserted through the bark into the cortex of the twig where it ends blindly." It is suggested that there may be some physiological connexion between the egg and the Apple twig since the condition of development of the latter seems to influence the date of hatching of the former. According to Lees, "The eggs are laid in greatest number at the base of the fruit spurs, often sheltering under the edge of the scale scar; frequently one side of the spur has more eggs laid on it than the other. . . . As a rule there are but few eggs laid on the vegetative shoots of one year's growth. This occurs only in cases where there is considerable crowding of eggs on the fruit spurs."

Sucker eggs may often be found side by side with aphid eggs in the scars on fruit spurs, their colour and shape, however, makes them readily distinguishable. In length they are a little shorter than the eggs of aphid, but are apt to be somewhat stouter; they are about .4mm. long, that is, about sixty to the inch.

These insect eggs on fruit trees hatch in most cases when the buds are showing green, that is, about the end of March or beginning of April. Referring to the hatching of Apple sucker, Theobald (*op. cit.*) states: "The small larvæ coming from the ova at once ascend to the buds, and if they are not sufficiently open they may be seen seated on the buds waiting to gain entrance."

Where examination reveals vast numbers of eggs present and it is desired to apply a wash immediately caustic soda or limewash could be used. For general infestations, however, spraying with soap and nicotine or with lime-sulphur at the dormant or delayed-dormant stages, will usually give satisfactory results. It is now a well-established fact that no definite date or dates can be advocated for applying sprays, the intimate relationship between the stage of development of the buds and the activity of the insect pests necessitating some more exact method of timing. This is obtained by dividing the spring development of fruit trees into definite well-marked stages. Two only of these are important as regards spraying and insect eggs; they are the stages known as *dormant* and *delayed dormant*. The dormant stage is that before the flower buds burst in spring, and probably the best results are obtained by spraying when the buds have started swelling and so loosened the scale leaves, but show no trace of green. The delayed dormant is the stage when the flower buds have swollen so as to show just a

trace of green at their tips; this on examination is seen to be the young leaves in a tightly folded and compact mass.

If lime-sulphur is used against insect eggs a spray at a strength of one gallon of concentrate to ten gallons of water may be applied at the dormant stage or one in twelve to one in fifteen at the delayed dormant stage. For soap and nicotine probably the best mixture consists of 1 per cent. of soap to .025-.05 per cent. nicotine, using soft water as a basis. The liquid potash soap as supplied by Messrs. The MacDougal Yalding Co. of Yalding Kent, is undoubtedly one of the best and most convenient soaps on the market. It gives a speedy mix which is important from the time-saving standpoint, and is most satisfactory either for garden or plantation use.

HERBERT W. MILES, N.D.A.

The Hosts of Silver-Leaf Disease

As the extermination or mitigation of this increasingly prevalent disease depends upon an understanding of its distribution, the following observations are worthy of careful study.

UNFORTUNATELY this disease has caused considerable trouble and anxiety to growers of fruit during recent years, and, although the annual loss is difficult to estimate, growers at the present season are busy cutting out infected wood.

Of trees attacked the Plum is by far the most susceptible, the following varieties being given in order of susceptibility: Victoria, Czar, Monarch, Washington, Belle de Louvain, Bryansstone, Gisborne, Diamond, Magnum Bonum, Early Orleans, Pond's Seedling, River's Early Prolific, Pershore Purple, Yellow Egg, Blaisdon Red and Kent Bush.

There appear to be very few records of the Damson being attacked in this country, and it would seem that the stocks upon which Plums are



STEREUM PURPUREUM FRUITING ON THE BUTT OF A FELLED POPLAR.

worked play some part in the degree of susceptibility. Further observations on this matter are necessary over a number of years before any definite conclusions can be arrived at with accuracy. Certain growers assert that *Victoria* upon its own roots is more resistant than when worked.

In the United States it is stated that Apples fall victim to silver-leaf disease, and cases of Apple infection in this country are not by any means rare. As far as my observations go the variety *Newton Wonder* appears to be susceptible, while silver-leaf on the varieties *Lord Suffield*, *Ecklinville*, *Bramley's* and *Grenadier* has also occurred with some frequency.

Other fruits usually attacked in this country are *Cherries*, *Red and Black Currants*, *Gooseberries*, *Apricots*, *Peaches* and *Nectarines*, the three latter coming next in susceptibility to the Plum.

In the past it has been usual to associate the silver-leaf disease with fruit trees and certain it is that from an economic standpoint the disease on this class of plant is usually more serious. Nowadays it is usual to consider the causal fungus of silver-leaf to be *Stereum purpureum*, and although

there may be some who do not hold this view no satisfactory evidence has yet been found to suggest otherwise. This fungus is often found on flowering shrubs and forest trees.

Of shrubs I am inclined to think that the *Portugal Laurel* is very susceptible, for certain it is that whatever part of this country is visited, silver-leaf infection of this plant may be found. The *Laburnum* and, in certain districts, the *Almond* are also attacked.

Coming to larger trees, the fruiting bodies of *Stereum purpureum* are often found on the *Oak*, while *Alder*, *Poplar*, *Willow*, *Birch* and *Elm* are attacked.

To a less extent I have also observed *Stereum purpureum* on *Sycamore*, *Acer campestre*, *Hazel*, *Beech*, *Mountain Ash*, *Hawthorn* and *Sloe*.

Growers who have wood of the above-mentioned kinds near to their fruit trees would be well advised carefully to examine it. Should the fruiting bodies be observed, they should be destroyed to prevent further infection to fruit trees. Fructifications of both the bracket shaped and flat type are found on these various hosts.

OBSERVER.

GARDEN ECONOMIES

Labour saving. Some very present helps in trouble.

I READ lately in a daily paper that a very reverend Dean had the day before made a remark in one of his public utterances to the effect that "taking one consideration with another," he thought "sinners" were more interesting people to meet than "saints." However this may be, I often thank my stars that I am a gardener in my own garden and not in Paradise—yes, even as *Parkinson* would have it, with such marvels as the *Vegetable Lamb* and, inferentially, the *Barnacle Goose* tree thrown in. How horribly dull and uninteresting it would be, simply to have to perform, in a sort of clockwork way, a certain number of routine actions with the assured result that all would be well, that no writing on any label would ever be obliterated, that no stick would ever break, and that flowers would need no gathering. Even just for one moment suppose you could begin life again with your experience of the lower world as part of your stock in trade, would your lament on leaving Paradise still be the same? Would you say *Milton* was wholly right in putting the words he did into your mouth as the awful thought of leaving came over you? Difficulties often prove but the raw material of pleasure when things go wrong; and go wrong they do even in the best ordered gardens. It is the common lot of all. There is no monopoly of this in either *England*, *Ireland*, *Scotland* and *Wales*. I know those who garden at *Myddelton House*, *Mount Ussher*, *Monreith*, or *Pentlyn Castle* would bear me out, if asked "Ah! but let me now come down from the clouds and touch solid earth. Let me put on one side the greater "annoyances" which necessitate uncommon men and women to deal with them. Let me touch earth and let me for one moment think of some lesser troubles which touch lesser people, such as labels, sticks and scissors.

There is still wanted a perfect label. I am very doubtful if one will ever be invented, but I am convinced the difficulties are considerably less than those which confronted the alchemists of older time in their search for the *Philosopher's Stone*—only one wise man (*Moses*) they say ever found it and he kept the secret to himself after grinding the golden calf to powder. Who ever finds the ideal label now will have no need to keep it to himself

Let him manufacture the label by millions and then advertise them almost at what price he likes to an eager and expectant world, and his zinc, lead, iron, glass or wood will be transfused into gold or "fishers." This applies more especially to labels for outside; for all purposes of indoor utility I have come to the conclusion that celluloid, cut and fashioned according to the wants of the particular garden in which it is to be used, is difficult to beat. It can easily be cut into any shape or size that is wanted. Labels made from it last for ages, and ordinary pencil writing is as plain as it was at first, twelve years afterwards; they can be cleaned again and again with "Monkey Brand"; they are pleasant and easy to write upon, and I use them very largely indeed for making notes about seedlings, both indoors and out of doors; celluloid labels are a boon and a blessing, and after twelve years experience I can strongly recommend them. One of the things I admire in so many brethren of the "blue apron" is the dexterity with which they cut flowers with their knives. I have to use scissors or perhaps I should say flower-gatherers. I have used several makes and I have seen others, but the *French Cueille-fleurs* of *Vilmorin* of *Paris* are a long way the best in my opinion. I was introduced to them by as natty a gardener as ever lived—the *Rev. Edwyn Arkwright* of *Algiers*—who was the first to find the white form of *Iris unguicularis* and whose "Telenny" strain of *Sweet Peas* was one of the first, if not the first, of the early or winter-flowering strains to be offered to the public. I must have had the pair which I now use thirteen or fourteen years and their plating is almost undimmed and their sharpness has hardly abated at all. One point about them of practical value is that they can be made either to hold or to loose a flower when cut. It depends on the part of the blade which does the deed.

The name of *Charles Wolley-Dod* was once a household word among all of us who fancied ourselves. Part of the garden at *Edge Hall* consisted entirely of raised borders, somewhat on the principle of that which was advocated in *THE GARDEN* for *January 21*. I remember it well and also how I tried to copy it when planning my own. The reason, however, that I have introduced this

famous name is because he was an advocate for iron sticks and stakes. I still have a large number that I bought at his instigation, but (one would not think it possible) they somehow or other get fewer in number. As leaden labels have been found useful for melting into bullets so I fear these iron sticks and stakes do come in handy for other purposes than their legitimate one. They theoretically ought to last for ever, but like so much else, these sticks—

"Do not what they ought,

What they ought not, they do"

(*Matthew Arnold, slightly altered.*)

If I remember rightly these supports at *Edge* were painted a dull dark green and so were mine at first, but devil a coat have any of them seen for this last twenty years, and really I don't think they look any the worse without it and they are quite as useful.

I had them made of all lengths, beginning at 2ft. and going up to 6ft. Some were made for a wonderful plan I had for growing *Sweet Peas* on stout string, threaded through holes in 6ft. stakes which were pierced for the purpose. What can be more eloquent of the change that the last quarter of a century has seen on the development and cultivation of this splendid useful annual? I advocate iron sticks and stakes. I have hardly ever caught them bending and I have never caught them breaking. *Mr. Samuel's* giant *Delphiniums* and *Messrs. Ballard and Beckett's* tallest *Michaelmas Daisies* have no terrors for them. If only plants could speak in human language what a chorus of united request would the owner of every garden have rising up every spring from his herbaceous borders. "The iron age has come, good master, the iron age has come." "If expense could be ignored, what might we not do?" that master might reply.

Again, who is there with hundreds of pots of different "stuff" to tie up with but one pair of hands to do it, who does not sigh at the weary task before him? It is a tedious job while it lasts. It is one of the newer annoyances that has arisen since so much has been grown under glass. The gardener who wishes to shorten the task should try some of *Allwood's* rings. They are a grand labour-saving device and as they have been in use at *White-well Rectory* ever since *Allwood Brothers* brought them out I can say from personal experience that they are a very present help in trouble. A stick is put in the centre of each pot; on this you can hook, by an ingenious device, one or two, or as many rings as are required in order to keep pace with the plant's growth. They are as neat and inconspicuous as any sticks or supports can be. They last for years. They take up little room when stored away. We tie them in sizes in bundles and hang them on nails on a wall. *Spondite*, which I referred to when I tried to describe our special *Whitewell* frames, cannot be omitted. A broken pane is a serious trouble in winter time, and must be attended to at once. We find *Spondite* very handy to pop in, and no harm has resulted from two or three bits that have been doing substitute for eighteen months, having stood our *January* and *November* snows this winter and also come through the intense heat of last summer "as right as a trivet." Like *Spondite*, the last help that I am going to mention, has not been under observation very long, but so far it has justified its purchase. I refer to a composition fuel called "Ovoids," which looks for all the world like dull black duck eggs. No problem is more perplexing at the present time than the heating of greenhouses. I imagine there is no one who cannot reel off at once the names of friends who have had to make changes in this direction. Economy is the order of the day at *Whitewell*, as elsewhere. Can we get

a sufficiency of heat at a less cost than in 1919 and 1920? is the question of the hour. One catches at straws. An advertisement of "Ovoids" at 48s. a ton, delivered at any station in England and Wales led me to give an order. Although it is too soon to make anything like an ex-cathedra pronouncement, I can say that if a constant low temperature is what is required, they are full of promise. They are wonderful lasters, which in itself is a recommendation, but they do not seem to give as much heat with the same draught as

coke, or coke and anthracite mixed. When they are first put on the boiler fire they give off a good deal of smoke, which has a peculiar smell, suggesting tar as one of the factors in their composition. This smoke seems to be the fly in the ointment. Will it be too much for our chimneys? So far we have not been burning it long enough to say, as we had to start coke before it had time to do much harm. When summer comes and we have burnt it in the warm days of March and April we shall know more.

JOSEPH JACOB.

THE FORMS OF IRIS UNGUICULARIS

The quite exceptional floriferousness of this beautiful, if variable species, make the following notes doubly interesting.

LADY MOORE'S article on this species on page 44 touches on many points of interest, and I am grateful to her for the opportunity of explaining the point of view which I adopted in dealing with the Iris genus. I am almost afraid that I am looked upon as a botanist, though, of course, I am nothing of the sort, but merely an amateur gardener, blessed perhaps—or should I say, cursed?—with an enquiring mind, which urges me, when once I have a plant in cultivation, to raise seedlings of it in order to see what happens. This habit of raising seedlings has shown me how useless it is to describe any Iris species in the minute way in which a correspondent describes "the lovely Iris unguicularis" on page 45, or to demand that it should be "accurately described as regards colour." Experience of many seedlings has shown me that no two are exactly alike either in colour, shape or marking. I remember, too, how every little piece of a number which were once sent to me from the island of Cephalonia produced flowers of a different shade of purple and how the markings varied on each one.

Once this infinite capacity for variation is realised it becomes a question whether one will follow the example of some botanists, who stroll out after lunch for a country ramble and return for an early cup of tea with ten or twenty new species of Blackberry, or whether we shall content ourselves with a rather wide definition of a species embracing within it all local forms or varieties, and excluding all others which differ structurally and not merely in colour or in size or in the exact outline of some part of the flower or of a leaf. Mendelism has shown us that even an extreme form may be expected to breed true when self-fertilised, yet no one, I imagine, would make into a distinct species the form of Iris Pseudacorus, of which the flowers have no brown markings on the yellow ground, but which breeds true to that character.

Nothing is easier than to take one individual specimen and measure it minutely in centimetres and millimetres and to call it the type, and then to describe as a distinct species every individual which varies in the least from it. If I had adopted this method in dealing with Irises, I could doubtless have filled several columns in some supplement to the "Index Kewensis" and seen my name attached as author to whole strings of new species. Variations in colour and shape and marking occur frequently among plants of Iris unguicularis of Algerian origin, but none of them possess, as far as I know, the curious bosses or swellings at the base of the segments of the flower, which I have always considered typical of I. speciosa. For this name there is no botanical authority and it seems as though Glasnevin has a different plant under this name. It would be interesting to hear from Lady Moore whether the early flowering pale blue form has these

swellings. I should fancy it would not possess them and that this early form is really of the Algerian race and not Greek, as I believe the later-flowering form with the bosses to be.

When Janka gave the name "cretensis" to his plants, he made no mention of I. unguicularis and merely separated it from I. humilis, which is to all intents and purposes an I. graminea with no stem and a long perianth tube. If he had called it the cretensis variety of I. unguicularis, no one could have objected, and we could have added a list of local varietal names, such as græca, attica, cephalonica, asiatica, lazica, etc., for all of which I could at one time have produced plants. Even then we should have had to admit under each of these names numbers of colour forms, and from time to time intermediates would have turned up, which would not belong, strictly speaking, to any one of these local races. For instance, I raised a very beautiful series of dwarf seedlings from a pod of seed I obtained from a Cephalonian plant crossed with pollen of the Cretan form. The colour and markings vary in each individual plant to an extent which would doubtless astonish those who are accustomed to think of I. unguicularis as a plant of which all individual examples are alike in every minute detail.

No satisfactory answer has yet been found to the question "What is a species?" but the infinite variety found in nature seems to show that it is safer so to define a species as to allow it to comprise many local forms than to confine the description to one individual. Some years ago now I tramped for a month on the eastern side of the Adriatic in search of Irises, and it was instructive to see how the pallidas down by the sea grew 3ft. high and how they gradually dwindled in height the greater the elevation became, until near the top of the Velebit Mountains at 4,000ft. they were less than 2ft. in height, with leaves like those of a small Chamæiris. The proportions remained unchanged when the plants grew side by side in my garden in Surrey, but would it be reasonable to make a fresh species for every 3ins. additional height?—W. R. DYKES.

FORTHCOMING EVENTS.

February 13.—United Horticultural Benefit and Provident Society's Meeting.

February 14.—Royal Horticultural Society's Fortnightly Meeting. Annual General Meeting at 3 p.m.

February 15.—Hertford Horticultural Society's Meeting.

February 16.—Meeting of the Linnean Society of London at 5 p.m. Manchester and North of England Orchid Society's Meeting.

February 17.—Eastbourne Horticultural Society's Meeting.

THE BLUE ASIATIC POPPIES

Though only of biennial duration, these plants have rare charm and distinction.

THE seeds of these plants must be sown when fresh; stale seeds will not germinate. When ripe seeds are obtainable, if sown immediately under glass (a little heat is beneficial), they germinate readily. Germination, also, is fairly even, the seedlings making their appearance well together. The Meconopsis like peat, and I find this a good material for sowing seed in, as well as for the well-being of the resultant plantlets; allow a generous proportion of sand, and some leaf-mould or mellow loam as well. Being water-loving plants, neither seeds nor seedlings should lack a sufficiency of moisture in the soil. I have had plants which, having been overlooked for a few days, had flagged so much for want of water that the leaves hung limp and apparently lifeless; but a few hours after an application of water every leaf had resumed its upright position. It is surprising to behold the difference the lack and due provision of water make to these plants! At no stage of growth, therefore, should Meconopsis be kept waterless. The seedlings should be grown on in pots indoors until they are sturdy enough to be planted in their permanent shady positions. Heat is not required during growth, which is certainly rather slow, but very sure. Even if the seedlings show reluctance to make rapid development for the first year, they will make up for it afterwards in the production of larger plants and greater floriferousness. These beautiful flowers are worth waiting for, although, unfortunately, they are only of biennial duration.

The chief value of the species of Meconopsis, apart from their great beauty, lies in the fact that they give us a blue Poppy—a glorified Shirley in appearance and substance, which has indeed caught and held the reflection of the blue skies of its Himalayan home. Several blue Poppies, I ought to have said, of which M. Wallichii is undoubtedly the best and easiest to grow. This plant shows its charm even in the seedling stage, when the prettily cut green leaves become covered with a multitude of long golden hairs which hold the drops of water so charmingly that they have the appearance of sparkling diamonds. This becomes more and more noticeable as the plants mature. The foliage certainly forms a handsome setting to so beautiful a flower. Another fine blue species is M. aculeata, the Prickly Meconopsis. The name faithfully describes the appearance of the plant; the flowers vary considerably in colour, many blossoms being of a splendid dark blue. M. sinuata latifolia resembles the foregoing in all but the leaves, which are less divided. M. racemosa produces its blossoms in a raceme in which it differs from its brethren; but its colour is a lovely blue. These species are all readily cultivated. There are others, however, of equal merit, but of different colour. A beautiful yellow is M. integrifolia, a gracefully disposed majestic plant of 4ft. M. paniculata bears handsome flowers of a pale sulphur yellow. It is but little grown, however, which is a pity. Another smaller species with red flowers, M. punicea, is almost unobtainable. The British representative in this section of the Papaveraceæ is the yellow or orange coloured M. cambrica, single and double, of our Welsh mountains. This is, of course, quite perennial and will willingly naturalise itself among the stones in the rock garden, either in sun or shade. Yes! even in the trodden path.

H. L.

A Bright Display at Vincent Square

THERE was a very interesting show at the Royal Horticultural Society's Hall, Vincent Square, Westminster, on the last day of January. Greenhouse flowers predominated, but there were several pleasantly arranged little rock gardens and also sufficient shrubs to show that the outdoor garden need not be devoid of flowers even in the dead of winter.

The principal exhibit was a very large collection of greenhouse Primulas by Messrs. Sutton and Sons. Not only were all the plants models of cultural skill but the arrangement showed how very decorative these dwarf plants are. The bowls of stellata varieties placed on stands table-high were especially charming and these contained plants of such sorts as Coral Pink and Improved Giant White, which excited a deal of deserved admiration. Of the

delightfully fragrant *Daphne indica rubra* as small, useful bushes and several *Mimosas*, with many greenhouse *Azaleas* and *Camellias*. The two last named were also staged in quantity by Messrs. L. R. Russell, Limited, and with them were plants of *Begonia manicata* and sprays of *Prunus triloba*.

Chrysanthemums are not yet flowers of a past season, for Mr. S. Aish was able to contribute quite good blooms of such sorts as Enfield White, Percy A. Dove and Heston White.

The little rock gardens were somewhat similar in design, but not sufficiently so as to be monotonous. Messrs. Waterer, Sons and Crisp displayed in theirs beautiful little groups of such dwarf *Iris*s as *ungicularis*, *u. lilacina*, *reticulata* and *sindjarensis*, while the mass of *Crocus versicolor* Cloth of Silver was very fascinating.

Very good blooms of *Iris reticulata* were also



A BEAUTIFUL CHINESE PRIMULA, SUTTON'S IMPROVED GIANT WHITE STAR.

fimbriata varieties, Reading Pink, Giant Crimson and Coral Pink made welcome masses of colour. The rose-shaped double flowers of Queen of the Pinks were also admirable in their colouring and profusion.

On a table space Messrs. Sutton had an attractive display of spring bulbs growing in bowls of fibre. There were many *Hyacinths* and *Narcissi*, with smaller numbers of *Lachenalias*, *Lily of the Valley*, *Anemones* and *Crocuses*.

Carnations were again an important feature and the collections by Messrs. Allwood Brothers, Messrs. Stuart Low and Co., and Mr. C. Englemann contained excellent flowers. Such pink varieties as Eileen Low, Laddie, Delice, Cupid and Boadicea were all very beautiful, while vivid colour was provided by Lord Lambourae, Edward Allwood and such. Chief among the Perpetual-Malmaison varieties were Mrs. C. F. Raphael and Jessie Allwood, of splendid colour. Besides Carnations Messrs. Stuart Low and Co. again had the

prominent in the exhibit of Messrs. J. Cheal and Sons where a number of Cushion Saxifrages and various conifers were well placed. Near by there was a model of a sunk garden and a rockery by Mr. E. Dixon.

Iris histrioides of beautiful blue colour and a breadth of *Liranthus hyemalis*, with Christmas Roses and a collection of conifer sprays, were included in a contribution by Mr. G. Reuthe.

The best alpinos were a goodly patch of *Saxifraga Bursoriana magna* in the small rock garden by Messrs. Skelton and Kirby. The blooms were very clean and pure white. They also had *Saxifraga Elizabetha*, bearing pale yellow flowers, adjoining plants of *S. Aizoon notata*, *Hamamelis mollis* and *H. arborea*, with a variegated *Elæagnus* and several *Ericas*, were very attractive.

Besides a rock garden planted with *Sedums*, *Saxifrages* and other plants, Messrs. Wm. Cutbush and Sons had *Ericas*, *Conifers* and a number of small, very glaucous plants of *Eucalyptus Gunnii*.

There were no floral awards of merit, but a card of cultural commendation was awarded to Mr. A. M. Robinson, Eastgate Manor, Chichester, for unusually large *Violets* of the varieties Mrs. D. Lloyd-George, Princess of Wales and Marie Louise.

New Apples.

Laxton's Pearmain.—This is a very handsome late dessert Apple. In outward appearance it is much like an unusually dark coloured Cox's Orange. The flesh is yellowish and the flavour first rate. We were informed by the raisers that it is a cross between Wyken Pippin and Cox's Orange and that the trees are of upright habit, robust growth and that the variety fruits freely. Award of merit to Messrs. Laxton Brothers.

Ananas Reinette (Pineapple Reinette).—An uncommonly late dessert Apple that possesses the true Pineapple flavour. Shown by Mr. E. A. Bunyard.

Reinette Grise de Saintonge.—This is a somewhat large dessert variety of conical shape. The skin is dark red and russety and it is of good flavour. Shown by Mr. E. A. Bunyard.

William Crump.—A few years ago this small conical Apple, which was raised at Madresfield, received a first class certificate, but unfortunately it has not yet proved to be sufficiently free cropping to be valuable. It is beautifully coloured and of first rate flavour. Shown by Mr. E. A. Bunyard.

A seedling Apple of excellent appearance was shown by Mrs. Alice G. Harrison, Hattondale, Wellingborough, who stated that it was raised from a pip taken from a colonial Newtown Pippin. This was questioned by the Fruit Committee, who considered it to be almost identical with Northern Spy, and as this variety is not suited to our climate, no recommendation was made, though there does not seem any reason why a seminal variety should not be fruitful here. The fruits submitted to the committee were most beautifully coloured and of excellent flavour.

GLOBE FLOWERS

There is something about the Globe Flowers which delights the real gardener's heart, yet they are not cultivated as much as they should be.

NO excuses need be made for using as the heading of this short article the English name for the plants which are about to be described. *Trollius* is the Latin or botanical name, but did ever anyone say to another, "Come and have a squint at my *Trolliuses*?" Is it not always, "Come and see the Globe Flowers?" This is quite as it should be. Without being too pedantic, if the word may be used in this connexion, it is always well if there are good old English names attached to plants to use them in English gardens.

"Globe" is at least as old as John Parkinson's time. In his very famous and often-quoted book the "Paradisus Terrestis" he has a picture of our native British form under the name of "The Globe Crowfoot". This was its usual name in Southern England. In "the Northern countries," he says, "it is called *Locker goulous*". This is interesting because the word "Boits" or "Bouts" is given as a synonym in Nicholson and other dictionaries, and one wonders if it should not have been "Locker goulous" or "Lockin Gowan" meaning a "closed-in bud or flower," for in Britain and Holland and in Prior "Boits" is undoubtedly the Marsh Marigold.

Parkinson's graphic description is so good that we can take it as a general description of the family, remembering that we now have in our gardens of pleasure a dwarf form, "acaulis" and also more

CORRESPONDENCE

A NATIONAL DAFFODIL SOCIETY?

open and orange-coloured forms like asiaticus and its derivatives. "It hath many faire, broad, darke green leaves next the ground, cut into five, six, or seven divisions and jagged besides at the edges; among which riseth up a stalke, whereon are set such leaves as are belowe, but smaller, divided toward the toppe into some branches, on the which stand severall large yellow flowers, alwayes folded inwards, or as a close flower never blowing open, as other flowers doe, consisting of eleven leaves for the most part, set or placed in three rowes, with many yellow threads in the middle, standing about a greene rough head, which in time growth to be small knops, wherein are contained blacke seede; the root is composed of many blackish strings." These leaves or, as the unbotanical might call them, these petals are really sepals. The true petals are found inside these and are much smaller and stand up in a more or less conspicuous manner round the more central stamens and seed vessels. The seed is black as Parkinson describes it, and it has this characteristic: if it is sown as soon as it is ripe it will germinate in a few weeks, but if it is kept till the following spring it will remain dormant a whole year. Hence if anyone buys seed in the ordinary way from a dealer, they must not condemn the seed and throw the seed-pan and its contents away if no seedlings appear in the course of a few weeks. The old writer's description of the root system is just as accurate as the rest. The roots are composed of many blackish or dark-coloured strings. One might make a very decent false beard out of the roots of a Globe Flower plant. This gives a good idea of their appearance. In a garden the chief essential for a plant to go "from strength to strength" is a moist or somewhat damp position. They prefer rather stiff and rich soil with plenty of humus, and, growing naturally in grass, they like a modicum of shade; at all events it is well to avoid too much sun unless the ground immediately round them can be kept cool. Autumn is the best time to break up old plants and to buy new ones, although there are some who advocate February or early March. If they are planted at this last date, particular care must be taken to guard the young foliage from drying and cutting winds and to see that the roots have plenty of water if there should come a dry time. They will do well in similar places to those in which the Japanese Irises (*Iris Kamperi*) flourish, by brook sides or in semi-marshy land, but not, we believe, where water is continually lying. It will be a surprise to those who do not go with the times to know that there are now a great many seminal varieties on the market, and that one new species has latterly been added from China. The species which have given us pretty well all our varieties are three in number—*Trollius europæus* (our native Globe Flower), *T. asiaticus* (the Asiatic Globe Flower) and *T. altaicus* (the Altaian Globe Flower). It is impossible to say how many varieties are in commerce, but Mr. G. W. Miller, of Wisbech, who more than anyone else seems to have made a speciality of them, and who has repeatedly staged them at the Tuesday shows of the R.H.S., offers in his last catalogue no less than thirty-seven. The following half-dozen can be confidently recommended as some of the best. In pale yellows, Lemon Queen and Lichball; in deep yellows, Earliest of All and Ophir; in orange shades, Fire Globe and Flame. In addition it ought to be mentioned that at least two varieties in time past have received awards of merit from the R.H.S. These are Orange Globe and napellifolius. They are both very good, but Flame and Lichball have left them behind. Well-grown plants of any of these should average from 2½ft to 3ft in height.

SEVERAL Daffodil growers have written me asking why I do not send a few lines in support of the proposed "National Narcissus Society." I should have done so long ago only I am afraid I do not share their views regarding the success, and I hate to sound a discordant note. Why the holding of two shows—similar to those we have—under the name of "National Narcissus Society" is to turn a failure into a success is more than I can imagine, unless, of course, there are some thousands of enthusiasts withholding their support because the R.H.S. and Midland Daffodil Society do not please them. The R.H.S. may have all the faults some writers accuse them of, but to cut clear of them and go off on our own would, to my mind, be casting our only lifebelt away. I speak from a very wide experience of shows (I believe I hold a record, having attended six in one week) and I know of few shows—even country shows—that are as badly attended as most Daffodil shows are. To run a Daffodil Society successfully on two houses per year is more than I can gulp in all at once. The Dry Bulb Show, I hope, is dead. I travelled four times from Ireland to attend that show, and it was nothing but a farce; the only time our bulbs were noticed was on the occasion when the soldiers pelted each other with them, and an hour before judging time we were busy trying to make King Alfred look like Emperor so as to make up our necessary count to twenty. Judging by the many shows that I have attended and that are still in existence I should imagine we require a "gate" of 10,000 to each show to make it a success. I am, of course, assuming that we rent our own hall, buy vases staging baize, &c., and it will be a surprise to me when I see 5,000 at a purely Daffodil show. The season of the Daffodil is a short one—the date that pleases the Southern grower is no use to the Northern grower, and if the Midlander had the choice of date he would fix one that would knock out the Southerner's Trumpet and the Northerner's Poet, therefore we must have three shows at the least if every member is to be catered for, and although we are probably as far from London as any exhibitor, if the place was left to me I would select London every time. How many R.H.S. Shows have been a success outside London, and which of the National Rose Society's Provincial Shows are a patch on the one held in Regent's Park? It is no use having a Drury Lane in Kilkenny; you cannot get the audience. Of course, I may be writing with one eye on the takings and the other on the expenses, but we must have our daily bread out of it or we will not live to grow Daffodils. In Birmingham we get splendid treatment—everything to your hand and the most civil committee I have ever met with, and when we have finished our staging and judging is over we go round and see each other's Daffodils. I dare say I shall be hauled up for saying that, but I can see my empty pocket book glaring at me and it will bear me out. If a National Daffodil Society is founded I will do my best financially and otherwise to keep the lid off the coffin but I must admit I have not the hope that many appear to have.—W. SLINGER, (*Donard Nursery Company*).

I THINK your Editorial Notes in the current issue of THE GARDEN are excellent. You know I am in favour of a more comprehensive and a stronger society being formed (British Bulb Association) which, I contend, could do the work of a National Daffodil Society and could do equally good work for other bulbs besides; but if the

majority are for a National Daffodil Society I will certainly support the movement and it will then be for the bulb growers to consider the formation of a "British Bulb Association" also.—W. A. WATTS.

GARDEN ECONOMIES.

I VENTURE to assert that very few gardeners of experience will agree with more than half of Mr. S. Warner Hagen's arguments in favour of dwarf *versus* tall Peas. All will agree that the dwarf varieties have their value for early, late and catch crops, but few would care to trust to them for the season's supply. True, the stakes necessary for the taller sorts are expensive, but there is now no need to grow anything higher than 4ft., this greatly economises stakes, and I, for one, have yet to grow a dwarf Pea of which two or even three rows can compete with one row of a good strain of Autocrat—to mention only one, and that quite an old one—which is in all truth a cut-and-come-again variety of the highest table value. There are many others which would come through the trial well. In a showery season, too, both dwarf and tall alike need stakes if they are to do their best, and then I think the dwarfs would cost nearly as much in stakes and labour and the return less than with those of medium height. Vermin, too, will quickly destroy crops which lie on the soil, and often much mischief is done before it is noticed and before the crop is ready to gather. As to storage of once-used stakes, are they worth it? I generally save the best of them, since they have cost more, for thickly staking the earlier crops both dwarf and tall; but there are strong reasons why they should not be used for the summer crop on the score of both insects and fungi. For several years I have been in the habit of taking catch crops of dwarf Peas from the plot on which Brussels Sprouts are to be grown. In my rotation these follow Celery and Leeks and the rows of Sprouts are marked with stakes, and as soon as the Peas can safely be sown a drill is drawn with the hoe midway between and two or three varieties are sown and generally a good crop is taken. The Sprouts can be set out when ready and both grow well together. When the Peas are finished the haulm is cut, not pulled, and so the Sprouts get the benefit of all the nitrogen stored in the nodules of the Pea roots. Broccoli follow the main crop and the same thing is done, the haulm is cut close to the ground as the rows are cleared and, after a light surface cultivation, the Broccoli plants are set out. For seed protection I much prefer Hortico to red lead and paraffin, but the best way is to trap the vermin, and in the case of mice this is easily done by setting short lengths of board on edge to form a V with a small opening at the apex and a break-back trap set so that a mouse passing through must step on the trigger. One a short distance from each end pointing inwards will soon account for them; no bait is needed, but if baited traps are set, sprouted Peas should form the bait. The reference to highly paid labour is surely not meant to apply to gardeners? It never could and I fear it never will. The amount paid now may be higher, but the value lower, and there are a great many who would be very glad if things would again reach the old level all round. Much of the economy forced on the garden at present is not always true economy, but gardeners, as a rule, do their best under adverse circumstances.—H. C. WOOD.

POTATO NOMENCLATURE.

COULD the Editor or any reader help to settle this argument: Is the Midlothian Early and the Duke of York the same Potato with two names? I have grown them side by side on the

same ground (in 1920) and have found a vast difference when dug, but Sutton's Potato expert and buyer says they are the same thing. They are, I admit, often sold as the same thing. Perhaps some of your readers belong to the Potato Society and would clear the matter up.—H. SAUNDERS.

[If Midlothian Early and Duke of York are, in fact, synonymous, there must be more strains than one of the variety. Duke of York as many people know it is distinctly the earlier. The tubers too, are generally considered more subject to "blight" than those of Midlothian Early.—Ed.]

WHERE STOVE PLANTS GROW WILD.

I WAS interested in a note on the Loquat in a recent issue of THE GARDEN. In the Northern part of India where I am living the Loquat is freely used as a tall hedge plant—similar to the Laurel at home—also Poinsettias, which, at the moment of writing, are a blaze of dazzling scarlet, most of the plants being 10ft. high and carrying upwards of forty-five bracts. Other plants in flower just now include *Tecoma stans*, *Jasminum auriculatum*, *Ipomœas Solanums*, *Bougainvillœas*,

both *glabra* and *lateritia*, the latter makes a good hedge plant and carries a bright brick-red coloured flower; the species *glabra* smotheres great trees, like Ivy at home, and is a wonderful sight. India is, indeed, rich in beautiful creepers and shrubs which are very little known in England; the former include *Tecoma grandiflora*, *Beaumontia grandiflora*, *Banisteria laurifolia*, *Pothos Argyrites*, *Ipomœa Learii*, *Héptage madagblota*, *Antigonon leptopus*, *Poivreia coccinea*, which are considered among the best. There are no English forest trees here, but beautiful specimens are to be found in these extensive gardens of *Ficus indica*, a large spreading tree; *Tectona grandis* (Teak), *Poinciana regia* and *elata*, the latter very graceful and decorative; *Ficus retusus*, *Diospyros embryopteris*, while *Croton oblongifolius* is quite soft, high and the same in diameter; *Grevillea robusta* is found in great numbers as avenue trees, and attains a height of 60ft. and 70ft. Palms, of course, are numerous and grow almost anywhere; also Roses of every variety in commerce. The extensive lawns are furnished with neat, compact shrubs, many of which produce gorgeous flowers in their seasons particularly noticeable are *Nerium montanum*, *Justicias*, *Jatropha panduræfolia*, *Eranthemums*, *Tabina montana*, *Ixoras*, *Nandina domestica*, *Cestrum auranticum*, *Tupidanthus calyptratus*, *Pittosporum Tobira*, &c. To an Englishman who has been accustomed to tending these in hot-houses they are particularly interesting seen growing in the open as lawn trees. The same may be said of hedges and hedgerows, *Pandanus* grows wild and attains a great height; *Ageratum* also is wild and, in the ditches, reminds one of Bluebells in the distance at home. Garden hedges are formed with *Duranta Plumieri*, *Myrtus* of sorts, *Didonia*, which the natives call "railway hedging"; *Hibiscus* in variety, while *Holmskioldia coccinea* is probably the best, not so much for the leaf but owing to its many pricks and the profusion of brick-red flowers. January is a cold month here; we are glad of a good coal fire and

practically the same winter clothes that we wear in England, not to mention blankets and eider-downs at night. I hope to send some photographs for THE GARDEN from time to time of plants which I think will be interesting particularly from the Palace Gardens in the Himalayan Mountains, where art and nature are combined.—GEORGE BURROWS, *Garden Controller, Patiala State.*

THE DRY BELT (B. C.).

I ENCLOSE two photographs in case they may be of interest. [One would not reproduce.—Ed.] They are pictures of flower borders in the Okanagan Valley, British Columbia, Canada, in the district known as the dry belt, the moisture being provided by irrigation. The borders were planted this year, the colours lavender, pink and white, with a grey groundwork of *Cineraria maritima* and Pinks. More annuals had to be used to fill in with than would be needed another year. They were all in bloom when this photograph was taken—*Sweet Sultan* and *Centaurea americanus*, *Phlox Drummondii* and late and dwarf *Godetias* and white *Antirrhinums*, all of



FLOWER BORDERS IN THE OKANAGAN VALLEY.

which bloomed till the middle of November, the time of the first heavy frost.—(Mrs.) H. G. FISHER.

ST. DOROTHY.

IF the Rev. Joseph Jacob did not know who this Saint was, it is certainly not surprising that the gardeners of whom he enquired were equally uninformed. If it is permissible to make a pointed observation, it is more the business of a clergyman to know about Saints than it is a gardener's. And yet, as it happens, this particular Saint is the patron of gardeners in Belgium, and probably if the enquiry had been addressed to a Belgian, our excellent friend Mr. Jacob would have been much more successful than he was with English gardeners. Among my distinctions of foreign origin is that of *membre d'honneur* of the Royal Society of Flora of Brussels. This is supposed to be the oldest floricultural society in Belgium—it is known to have been in existence as far back as 1650, how much before, the records do not state. It is claimed to be the oldest society of its kind in the world, and was originally known as the Confraternity of St. Dorothy. In 1660 an altar was erected to the Saint by subscription of the members of the fraternity, who used on certain fête days to garnish the altar with flowers and other garden produce, and in the following year rules were drawn up, a copy of which is still in existence. In 1664 the confraternity was officially recognised by the Archbishop of Mechlin, and Pope Alexander VII granted special privileges to this ancient body of Belgian gardeners. Many

illustrious persons have been enrolled on the list of membership, both Belgian and foreign. The title continued for many years, and finally some short time prior to the year 1822 the Confraternity of St. Dorothy was changed to its present title, *La Société Royale de Flore*. Its headquarters are, and for many years have been, at the Botanic Gardens, Brussels; the secretary, M. Louis Gentil, who has many friends in this country.

And now a few words about this Saint, which may be helpful to the enquirer. In "Butler's Lives of the Saints" under date of February 6 we read that she was condemned to the most cruel torments because of her refusal to marry and to worship idols, and that, being condemned to be beheaded, she converted one, Theophilus, by sending him certain fruits and flowers miraculously obtained of her heavenly spouse. It will now be seen why the two Saints appear on the title page of the "Jardin d'Hyver," with the angel distributing flowers to them. I say the two Saints for Theophilus is also a Saint in the Calendar of the Church of Rome, although he is not the subject of a special biography in Butler, nor can I find an independent record of him in the material at hand. Like several other Saints, he appears to have two days allotted to him, viz., February 6 and October 13. Saints seem to vary according to their countries. In England St. Swithin is the watery Saint; in France it is St. Médard; so if St. Dorothy is the patron Saint of gardeners in Belgium, the French gardeners have preferred St. Fiacre for their patron, and his day is August 20. But I will conclude by asking who was St. Fiacre, and what did he do to merit canonization? Perhaps our friend who has raised the question of the female Saint will, in the course of his promenade down the Avenue of Garden Saints, be able to come across him.—C. HARMAN PAYNE.

A SUBSTITUTE FOR HOLLY IN SOUTHERN FRANCE.

WHAT an attractive little shrub the Butcher's Broom (*Ruscus aculeatus*) is when covered with its large scarlet berries. It grows very freely here, and though large quantities have been gathered during the last few weeks, there is still plenty to be found, both on the stony hillsides and also on the sandy soil under the Pine trees on the seashore. Some book which I have at home ascribes the familiar name of this plant to its being formerly used by butchers for brushing their meat blocks, and every butcher's shop in the old town here seems to possess a bunch, so perhaps in Provence it is still used for that purpose. I have several times asked the name and have in each case been told "Houx" (Holly), with, in one case, the qualification "des Montagnes." The real Holly does not seem to be known here. The berries on the Butcher's Broom here are much more plentiful than I have ever seen them in England, though the plant appears perfectly hardy at home—at any rate, as far north as Yorkshire.—R. B. HYÈRES.

[It is comparatively rarely that the Butcher's Broom fruits in English gardens, as the plants are unisexual and in most gardens only one sex is grown.—Ed.]

ENGLISH CATALOGUES FROM GERMANY!

I ENCLOSE the wrapper of Bees' latest catalogue. You will note the stamp and postmark; is it possible that the catalogues are printed and posted in Germany? Can nothing be done to open the eyes of the Government (and the Postmaster-General in particular) to the ruinous policy they are pursuing. No wonder

there is unemployment in England when we even get our printing done in Berlin!—T. S. CHANNER.

[The above is one of a number of letters we have received upon the above subject. Messrs. Bees' manager has, in the trade Press, explained that the posting of the lists in Germany was intended as an object lesson to the Postmaster-General and as a protest against the unfair competition of German seed lists which cost only about one-sixteenth of a penny to send, of which our Post Office takes the smaller half! The explanation, it will be noted, says nothing as to where these lists were printed, nor as to why they bear no printer's imprint; but the general get-up of the catalogue, especially the colour printing, strongly resembles that of catalogues "made in Germany." An interesting point is that none of the wrappers we have received includes "England" as part of the address.—ED.]

A QUIANT NEW ZEALANDER.

I ENCLOSE a few notes on one of our curious shingle plants, which may be of interest to some readers of THE GARDEN. I found a good many were interested in the *Raoulia eximia* (Vegetable Sheep), and this is quite as remarkable. Our shingle slips extend for acres and acres on the eastern side of the Southern Alps, starting well up the mountains and spreading as they come down into large fans. They look absolutely bare of vegetation, just like nothing but splinters of rock, coarse in places, finer in others. I stood on one of these fans this week and noticed a strong scent, and knowing it must be a flower, immediately began to hunt, and was rewarded by finding plants of *Notothlaspi* or the Pen-wiper Plant, as it is generally called. The leaves are arranged in a rosette and are pretty well the colour of the stones; they overlap like shingles of a roof and the whole rosette is curved like an umbrella, so that only the tips touch the ground. Thus any rain falls off into the loose shingle, where the long, thin tap-root and its long branches anchor themselves among the drifting shingle. This little umbrella plant, when the shingle is hot and its underside cool, condenses vapour for its own use, and at night when the shingle cools down more rapidly than the plant the vapour condenses on the ground, thus keeping the foliage dry and fairly well protected from frosts. The flowers come in little pyramids of white or greenish yellow colour and have a very strong scent; the only way they have, I suppose, to let insects know where they are for fertilisation purposes—as they certainly are difficult to find owing to their stone-like colouring. It belongs to the Wallflower family. Now if anyone is interested enough to wish to try seed of this remarkable plant I have marked many for seed and will gladly send some on application.—MARY DOULTON, *Shirley, Christchurch, N.Z.*

[No doubt some interested readers will wish to avail themselves of our correspondent's kind offer. The Editor himself would gladly give the *Notothlaspi* a trial.—ED.]

THE CULTURE OF THE TANGIERS IRIS.

THE fine illustration appearing along with my note on *Iris tingitana* in your issue of January 21 shows over what an extended period this fine Iris may be had in flower—from December to May. Of course, one should bring them on in successive batches, like Tulips and Hyacinths, retarding and encouraging, as the case might be.

I now give, as promised, the cultural details which rewarded us with the large quantity and fine quality of blooms we have been able to gather at Christmas-time and since. We purchased 200 bulbs in the first week of September. Using 10-in. pots, we placed seven bulbs in each pot, in a compost of three parts of roughly chopped

old loam, one of well spent and partially dried cow manure, and a good dash of sea sand, covering the bulbs to the depth of 3 ins. The pots were then plunged outside in old ashes to the depth of 6 ins. Here they sojourned until the first week in November, when they were taken out of the ashes, given a good soaking of water (they like plenty of water) and placed in a cool greenhouse, with ample ventilation whenever really open weather permitted. Later on we maintained, by fire heat, a temperature of about 50°, for they are impatient of too high a temperature, which may easily cause the foliage to shrink and wither, and thus blight one's hopes.—ROBERT MCHARDY, *West Derby.*

A VALUABLE GUM TREE.

I QUITE agree with Mr. W. Smyth that *Eucalyptus citriodora* is well worth growing where climate will permit. There is no foliage to surpass it in fragrance. I grew it on the bank of the River Plate, and the leaves, green or dry, were always most acceptable to visitors, and I wish that it would grow in the open here.—V. CALDWELL, *Reigate.*

SHELLEY, "THE POET OF NATURE."

"Somers," in his article "Spring o' the Year" (THE GARDEN, January 28, page 30), playfully charged Shelley with *suppressio veri*.

Singer, whose life was lost in Spezia Bay,
But whose brave spirit lives for evermore,
Because thy glorious songs cannot decay,
Or melt like transient waves upon the shore;

In every strain the heavenly skylark sings,
Floating on waves of music to the skies,
I hear thy soul ascend on angel-wings,
In soaring strength, to heights of Paradise.

How great thy glory when the snow-white cloud
With its pure splendour crowned the mountain's
crest.

While thy celestial songster sang aloud,
As if the sunlight dwelt within its breast!

Lover of Nature, by whom suffering men
Feeling thy nature near, forgot their pain;
Thy voice still soars o'er moor and grove and
glen,

But when shall thy great spirit come again?
DAVID R. WILLIAMSON.

THE LITTLE GARDENS AT RHEIMS.

THANK you many times, Mr. Editor, for printing my appeal for flower seeds for the little gardens of Rheims. I have had some most kind and generous replies. I do so appreciate them and the friendly way in which the donors write to me. If everyone would put their names and addresses in the letters or packets I would acknowledge them separately. I have received a most generous gift of packets of flower seeds from Cardiff—such a lot and such lovely sorts. I should so like to thank the donor. Also some kind person has sent me 2s. 6d. from Glasgow; and I have also received a delightful collection from Paignton. Will you be so kind as to let me thank these kind people through THE GARDEN. I was seized with a bad attack of influenza as I was leaving England about a fortnight ago; hence my delay in acknowledging these gifts. Rheims looks very desolate and war-racked after a visit to England and a taste of its refinements and comforts. I do hope that if any readers of THE GARDEN come to Rheims that they will feel that they have a friend here in me, and will come and see me and I will take them round the barrack villages.—VICTORIA SLADE, *Lover Eminin, Rheims.*

"THE GARDEN" AS A BOOK OF REFERENCE.

WHEN first I open THE GARDEN, each Thursday (and my newsagent never disappoints), I always turn to the Correspondence columns, and there—for how many years I fail to recall—I always find some hint worth making a note upon. For many years I never destroyed THE GARDEN and other journals, until the wife, in desperation, vowed vengeance on the lot during the time of the cleaning in "the spring o' the year." Now, I was very troubled how to preserve all this valuable information, so I commenced to go through this pile, which reached from floor to roof, and after weeks, in my spare time, I bound what I consider to be one of the most valuable books of reference it is possible for any amateur to possess.

I am greatly obliged to Mrs. Duggan for bringing this matter forward, and should like to give the method I adopted, for it was impossible to go to the expense of bookbinding, which would run into many pounds. Of course, if funds are not a consideration the usual method of binding has much to recommend it, but in my case it was economy or destruction. My special interest in gardening is very limited—so also is my time—therefore I went through many thousands of pages, dissecting those pages on rock, alpine and lises—my only study. Afterwards I collected all THE GARDEN leaves or cuttings and bound them into several volumes, securing each page just as one would secure an invoice or letter, in the patent "Stolzenberg" file. We had plenty in stock at the time, before 1914, therefore I do not know if they are still to be obtained. Probably there are many others that would answer equally as well; and when one can form a series of valuable reference books at the small cost of 9d. or 1s., this system has much to recommend it to those gardeners who are in the habit of lighting the greenhouse fires with their old numbers.

Glancing through the volumes, my eye lights upon the article of "Somers" before he was reduced to the ranks of us ordinary poor, common or garden sort of persons. Strange what a difference those two little letters ET mean; and when I read our good friend's notes I always think of the old name, for the only man I ever knew called Somers was a cobbler—an honourable name, still I like the former better. Or, again, in acknowledgment to the past memories, I again turn up the notes upon that beautiful garden behind "The Door in the Wall." My series of THE GARDEN to me is indispensable.—J. P., *Cheshire.*

["Somers" is hardly so plebian a name as our correspondent seems to think. There is a Barony of the name. As binding cases can be obtained from this office for 2s. (postage extra), and the binding should cost but a very few shillings, the expense cannot be considered great!—ED.]

THE PLANE TREES.

I AM much obliged to the writers of the notes re *Platanus occidentalis*, but am not much "forrarder." There are several Plane trees here, planted, I understand, by Repton about 1770—one of them is 90ft. high and is *P. orientalis*, I should say. In THE GARDEN, dated January 28, mention is made of a tree at Bickling Hall—of *Platanus occidentalis*—and in London's "Arboretum et Fruiticetum" (1844) I see he places several about the country. It should be possible to settle the question definitely once for all, and I shall try to make sure of the species of these trees here this year, if possible.—J. D. COLLEDGE, *Cobham.*



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- Opalesce.—A lovely ros-madder 1 3
- Lord Tennyson.—Yellow, distinctly edged rose 1 -
- Duchess of Wellington.—Deep lavender 1 3
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- Bookham White.—Pure white, perfect form 1 3
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- Jean Douglas.—A scarlet self, dazzling colour 1 -
- Queen Alexandra.—Bull-yellow, very free 1 -
- Pink Beauty.—Rich clear pink, very vigorous 1 3
- Miranda.—Salmon-pink and lavender grey 1 6
- Climax.—Bull-yellow and coppery red 1 -
- John Knox.—Dark crimson; perfect form 1 -
- Lady Greenall.—Rosy-red shading to pink 1 -

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- Mrs. Caron.—Gentian-blue, white centre 1 6
- King of Delphiniums.—Gentian-blue and plum, white eye 1 6
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- Musis Sacrum.—Bright sky-blue, early 2 -

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HARDY PERENNIALS, very strong, transplanted, flower this year. Best strains procurable. **Achillea**, double white, 6, 1/6. **Agrostemma**, crimson, 6, 1/6. **Alyssum**, egg dust, 6, 1/6. **Alpine Wallflowers**, 20, 1/6. **Alpine Pinke**, 1/9. **Anchusa Italica** Dropmore, lovely blue, 6, 1/9; angustifolia true deep blue, 6, 1/6; myosotis-flora, dwarf lovely rockery plant, 3, 1/6. **Anemone**, Japonica, white or pink, 2, 1/4. **Anemone Pulsatilla**, most beautiful spring flowering hardy perennial followed by handsome fruit, 2, 1/6. **Anthemis montana**, 6, 1. **Aquilegia**, Kelway's hybrids, 6, 1/4. **Arabis**, double white, 1/6. **Aubrietia**, rich purple, 6, 1/6. **Auriculas**, lovely alpine varieties, 4, 1/4. **Antirrhinum**, bushy plants, lovely colours, 6, 1/4. **Brompton Stocks**, year old, 6, 1/6. **Christus Roses**, large crowns, 1/4 each. **Campanulas**, blue or white dwarf or tall, 4, 1/4; pyramidalis, two year old, 3, 1. **Canterbury Bells**, single, blue, pink, mauve, white or Dear grano hybrid, 12, 1/9; double, 6, 1/6. **Candytuft**, perennial 4, 1/4. **Carnations**, good border, 6, 1/6; separate colour white, yellow, crimson, scarlet, 6, 1/9; Grenadier, lovely double scarlet, 6, 1/9. **Centaurea montana**, blue, white or rose mauve, 6, 1/6. **Chrysanthemums**, strong rooted cutting best early, mid or late, all colours, separate or mixed, 6, 1. **Chrysanthemum maximum**, new large flowering variety excellent for cutting, 6, 1/4. **Cistus** (Rock Rose), 6, 1/4. **Coreopsis grandiflora**, 6, 1/6. **Cornflowers**, Kelway's blue 12, 1/6. **Catmint**, 6, 1/6. **Daisies**, new enormous double blooms, red or white, splendid for bedding, 12, 1/6; mixed 20, 1/6. **Delphiniums**, best named, large two year old, 2, 1/4. **Delphiniums**, grand large flowering hybrids, or light or sea blue, year old plants, 3, 1/6. **Dianthus**, Kelway's love, double or single, 12, 1/6; creeping, bright pink, 6, 1/4. **Erigeron** (stenactis), mauve Marguerite, 4, 1/6; new Quakeress, 3, 1/4. **Erysimum**, golden gem, 20, 1/6. **Forget-me-nots**, best dwarf, dark or light blue, perennial sorts, 12, 1/4. **Foxglove**, 12, 1/6. **Gaillardia grandiflora**, 6, 1/6. **Galega**, Goat's Rue, 6, 1/6. **Geum**, double scarlet, 4, 1/4. **Gypsophila paniculata**, 6, 1/6. **Helienium**, 6, 1/6. **Heuchera**, scarlet, 4, 1/4. **Hollyhocks**, lovely colours, single, 6, 1/6; doubles, 4, 1/4. **Honesty**, crimson and white, 6, 1/4. **Iceland Poppies** Excelior strain, 6, 1/4. **Iris**, separate colours, mauve, white, yellow, blue, purple, 4, 1/6. **Iris**, large flag, splendid colour, 6, 1/6. **Kniphofia**, handsome Torch Lily, 3, 1/6. **Linum** blue Flax, 12, 1/9. **Linaria dalmatica**, 6, 1/6. **Lobelia cardinalis**, 4, 1/4. **Lupins**, polyphyllus, pink, white, blue, 6, 1/6; mixed, 12, 1/9; Tree, yellow or white, 3, 1/6. **Lychnis** scarlet clareconia or Salmon Queen, 6, 1/6. **Malva**, bright pink, 4, 1/6. **Monarda**, Cambridge, scarlet, 3, 1/6. **Nepetas** Musini, lovely mauve, 4, 1/4. **Pansies**, best large flowering and separate colours for bedding, 12, 1/6. **Phlox**, best, large flowering, all colours, 3, 1/6; mixed, 4, 1/6. **Paeonies**, separate colours, 2, 1/6. **Papaver pinnatum**, rich orange blooms, 6, 1/6. **Poppy**, Oriental Queen, enormous blooms, 6, 1/6. **Passion Flower**, hairy, blue and white, 2, 1/6. **Peas**, everlasting red, pink and white, mixed, large roots, 3, 1/6. **Physalis** Giant Cape Gooseberry, 6, 1/6. **Pinks**, coloured garden, 12, 1/9; double white, 6, 1/6. **Potentilla**, double crimson, 6, 1/6. **Primulas**, hardy assorted, for succession of bloom to end of summer, 12, 3/-. **Pentstemon**, large dusky scarlet Southsea Gem and grand Excelior strain, 6, 1/9; smaller good plants, 6, 1/4. **Pyrethrum**, Kelway's, 6, 1/6. **Ribbon Grass**, variegated, 6, 1/6. **Rose Campion**, bright crimson, 6, 1/4. **Rudbeckia speciosa**, 3, 1/6. **Salvia pratensis**, lovely blue, 3, 1/6. **Saponaria**, pink rockery, 6, 1/6. **Scabious**, sweet, 6, 1/4. **Shasta Daisy**, 6, 1/6. **Silene compacta**, pink, 15, 1/6. **Stachys**, Lamb's Wool, 6, 1/4. **Stachys**, Sweet Herb Lavender, 3, 1/6. **Sweet Rocket**, 12, 1/6. **Sweet Williams**, double and single mixed, lovely colours, 12, 1/6; lovely scarlet pink and crimson Beauty, 6, 1/4. **Thistle**, Queen of Scots, 3, 1/6. **Thalictrum**, hardy Maidenhair, 4, 1/6. **Tritoma**, Red-hot Poker, early and late flowering, 3, 1/6. **Tussilago**, hardy winter Heliotrope, 3, 1/6. **Veronica**, dwarf or tall, 6, 1/6. **Valerian**, crimson, 6, 1/6. **Veronica**, blue, 4, 1/4. **Viola**, separate colours for bedding and good mixed, 12, 1/6. **Sunflowers**, new red, 3, 1/6.

Strong transplanted plants for cool house. **Agapanthus**, large blue African Lily, year old plants, 4, 1/6. **Agathæa**, blue Marguerite, 4, 1/4. **Asparagus Fern**, erect or trailing, 3, 1/6. **Begonias**, scarlet, crimson and Salmon Queen, evergreen, perpetual flowering, 4, 1/6. **Auriculas**, grand large flowering, show, 4, 1/6. **Cannas**, large two year old splendid hybrids, 3, 1/6; one year, 4, 1/4. **Celsia Critica**, 4, 1/4. **Cinerarias**, exhibition and stellata, 6, 1/6. **Eucalyptus**, 4, 1/4. **Francoa**, Bridal Wreath, 4, 1/6. **Heliotrope**, very large heads, dark or light, 4, 1/6. **Lobelia cardinalis** Queen Victoria, 4, 1/6. **Nicotiana**, white or crimson T bacco, 6, 1/4. **Plumbago**, blue, 1, 1/4. **Primula sinensis**, Kelway's Model and stellata (only colours), 6, 1/6. **Primula malacoides**, rose-lilac; Kewensis, yellow; Forbesii, pink, 6, 1/6; obovata, new giant, lovely colours, 4, 1/4. **Rehmannia**, pink trumpet, 3, 1/6. **Salvia**, Zurich Scarlet, 4, 1/4. **Coccinea**, scarlet, 6, 1/4. **Saxifraga**, Mother of Thousands, trailing, 4, 1/4. **Streptocarpus**, lovely Cape Primrose, large blooms, lovely colours, 4, 1/4.

Mrs. PYM, F.R.H.S.,

10, Vine House, Woodston, Peterborough.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Brussels Sprouts.—Make the first sowing of this excellent vegetable now and thus ensure a long season of growth, which is necessary to obtain the best results. Sow the seed thinly in boxes of light soil and let germination take place in a gentle heat, such as a newly started vinery or peach-house. When sufficiently advanced the young plants will do splendidly if pricked out on a mild hot-bed.

Shallots may be planted as soon as the soil is in a suitable condition. They prefer a light and well tilled soil. Plant the bulbs firmly in rows drawn a foot apart, with a distance of gins. or roins. from each other in the rows.

Chives.—This useful adjunct for soups or salad bowl is readily propagated by seeds or by division of the roots, which may be carried out in open weather.

Pathways in the kitchen garden, owing to the considerable wear they get, necessitate an occasional levelling up or re-adjusting. The major part of wheeling and carting operations having been finished, the matter should be taken in hand, so that it will be finished with before the pressure of sowing and planting operations is needing attention. Should any of the walks have an evergreen edging, such as Box or Ivy, any trimming or relaying should be delayed until the most severe weather has safely gone.

The Hardy Fruit Garden.

Rooted Cuttings of Currants and Gooseberries, which were put in last autumn, will pay for transplanting as soon as it can be arranged for. It is not advisable to place them in their future permanent quarters but grow them on a reserve plot for a season, placing them about 2ft. apart. Good bushy plants will develop ready for future use.

Peaches and Nectarines should soon receive what pruning is necessary, and whether this is much or little will depend to a great extent on the amount of attention bestowed upon them during the growing season previously. It should be the aim to remove as much of the old fruiting wood as possible where it does not interfere with the extension or balance of the tree. Select for laying in wood of a medium vigour having a good proportion of plump fruit buds. These may be easily distinguished from wood buds as the latter are long and thin.

The Flower Garden.

Bare Ground under trees and at times among portions of shrubberies is a matter which not infrequently crops up for solution. In a more or less satisfactory manner the plants suggested below will of times be found useful. An important point to remember before attempting any planting is to dig the ground well and work in at the same time plenty of decayed manure and leaf soil. This will enable the plants introduced to obtain a fair start, otherwise an impossible task in what are generally dry, hard and impoverished positions. Two excellent and probably the most generally used plants for such work are the lesser and greater Periwinkles (*Vinca*), and one of the small-leaved Ivies. The latter is neater and more close growing, but for covering large and uneven places *Vinca* major is preferable owing to its freedom of growth, and it also deserves mention because of its delightful blue flowers. Besides Periwinkles and Ivies we have *Eunonymus radicans*, *Malva*, *Veronica buxifolia*, *Phillyrea*, *Hypericum* and *Smilacina*. These may all be planted now with every hope of success. To obtain an immediate spring display under trees there is nothing so useful as *Primroses* and *Myosotis*, as it is now too late for other bulbs such as *Daffodils*, *Aconites*, *Cyclamen*, *Bluebell*, *Muscari*, *Snowdrops*, etc., which should be planted in the autumn.

Fruits Under Glass.

Pot Strawberries.—Where only a small quantity of plants are grown in pots for bringing along under glass, the present is a suitable time for starting them, as from now onwards the plants may be relied upon to give good results. A batch is also required where a start was made some weeks ago, to serve as a succession. The early batch are now most active in leaf and root and will take more water and syringings on bright days must be well done or red spider will soon obtain a footing on the undersides of the leaves. While removing the plants from the frames or plunging ground see that the drainage is good and remove all decayed leaves, etc. Should the soil have been broken away from

around the plants add a little good loam, doing it when the plants are not very wet so that it may be well firmed into position. Plants which do not show promise of a flower spike should at once be discarded. When the plants are in flower syringing should be discontinued until a good set of fruits has been obtained, when it may be again carried out and kept up until just before colouring of the fruits commences. Feeding of the plants should be regularly carried out as soon as the flowering period is over, and continued until the fruits are colouring. From five to eight fruits is enough for plants to carry in 5in. and 6in. pots.

H. TURNER.

(Gardener to the Duke of Northumberland.)
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Spinach.—Sow a portion of the early border with seed of the round variety and so obtain fresh pickings as early in the season as possible. Where Perpetual Spinach is grown the plants should be encouraged into more rapid growth by frequent stirring of the soil between the rows.

Shallots should now be planted in quantity. Choose a time when the ground is in good order and scatter a quantity of wood-ash or burnt refuse over the surface, working it lightly in with the rake. Plant the bulbs in rows about 12ins. apart.

Chives.—Clumps of these may be broken up at this time and transplanted. The young growths are esteemed for salading purposes and for the flavouring of soups.

Brussels Sprouts.—One of the essentials in the proper cultivation of this indispensable winter vegetable is to give it a lengthy season of growth. Sow the seed thinly in boxes and germinate in a cool greenhouse. Keep the box close to the glass so that seedlings of sturdy growth may be obtained for pricking out on a mild hot-bed. When once the seedlings are established the frames should receive free ventilation and thus ensure well-grown plants by the time it is safe to transfer to their final quarters. In wind-swept gardens dwarf-growing varieties should be chosen, and in this respect we find *Solidity* one of the best.

Fruit Under Glass.

Strawberries.—The earliest batch of these should now receive occasional doses of stimulants and so strengthen the fruit trusses. Where the trusses are in flower hand-fertilisation should be resorted to, as there is still a scarcity of the necessary insect life. As the fruit swells support the heavier trusses with Birch twigs.

Iggs which were started some time ago should now be allowed an increase of temperature with a corresponding increase of moisture in the atmospheric conditions. Spray the trees during the early afternoon, using tepid water for this purpose.

The Flower Garden.

Box Edgings.—The present month is the best in which to undertake the relaying of Box edges. In relaying portions that have been unsatisfactory owing to poverty or sourness of the soil, the precaution should be taken of adding fresh soil; this should help the young plants that are being inserted. Tear the old plants into small portions with roots attached and plant at a regular height above the ground level, say, about 2ins. When filling in the soil tramp firmly. Neat edgings are often indicative of the standard aimed at in carrying out the regular work of the garden.

Border Chrysanthemums.—Where it is customary to box the old stools of these plants for the winter they should now be taken in hand and the necessary quantity of cuttings inserted. Dibble the cuttings firmly into boxes of light sandy soil, and as they will be transplanted into cold frames at a later date they may at present be put in fairly closely. The cuttings will strike readily if placed in an early vinery or Peach house. Move to cooler quarters immediately they take root.

Violas and Pansies.—From seed sown now strong plants may be had ready for planting out during the early part of May, and will be found to flower profusely during the summer and autumn. The *Violas* from seed come surprisingly true to colour, while among the *Pansies* the most delightful markings and variations in colour occur.

The Shrubby.

Planting.—With few exceptions both deciduous and evergreen shrubs transplant safely at this time. Where the natural soil is cold and clayey some lighter material should be worked around the roots of the young plants. Most shrubs like peat, but where this cannot be had a mixture of fibrous loam, leaf-mould and sand proves an excellent rooting medium.

Austrian Briars.—Thin out weakly growths from beds of these plants and fork in a good dressing of short, well-rotted cow-manure. As with most Briars, little pruning is required, the plants flowering much more freely when left to grow in a natural way.

JAMES McGRAN.

(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock.

CONSERVATORY AND GREENHOUSE.

The Epacris is a very beautiful greenhouse plant which should be more generally cultivated. Native of Australia, it is classed among hard-wooded plants. It has the merit of lasting in flower for a considerable time and the long flowering sprays are well adapted for cutting purposes. There are many named varieties, varying in colour from white, through various shades of pink, red and crimson. As they pass out of flower the plants should be cut hard back and stood in a house where they can be kept rather warm and moist—at this stage they will stand more heat and moisture than *Ericas*; a day temperature of 50° to 55° will suit them very well while they are making their growth. After cutting back they require very careful watering until they make some new growth. At this stage they benefit by being sprayed several times a day with clean water. When they have made some 2ins. or 3ins. of growth, they should be potted on into larger pots, using good sound peat and enough coarse sand to render the whole porous, and like all plants of this class, firm potting is essential. As the season advances they should gradually be accustomed to more airy and drier conditions; and as they complete their growth, they may be stood outdoors during the summer months. *Epacris longiflora*, also known as *E. grandiflora* and *E. miniata*, unlike the upright growing sorts, should not be cut back every season. It makes long, straggling growths, which are best tied into a framework. This species flowers for several months at a time, and is a beautiful plant for the cool conservatory. *E. purpurascens*, syn *E. onosmaeflora* is an upright growing species; there is also a pretty double form, which used to be a popular market plant. *Epacris* are propagated by means of cuttings, using twiggy shoots that have just finished their growth. These should be dibbled into pots of fine sandy peat, made very firm and the pots stood under bell glasses in a cool house. They are slow and by no means easy to propagate, unless one has experience of this class of plant, and it would pay a beginner to buy young plants from a nurseryman.

Bouvardias.—Where it is desired to increase the stock, some old plants should be partly pruned back and introduced to a warm moist house. As they will have been standing dry for some time, they require to be thoroughly soaked at the root. If they are kept in a temperature of 55° to 60° and are sprayed over several times a day with tepid water, they will soon break into growth. When the young shoots are about 3ins. in length they should be secured as cuttings, and these will root very readily at this time. Many gardeners complain of the difficulty of successfully rooting *Bouvardias*, but if the above procedure is followed they should have no difficulty. I may say here that many plants that are supposed to be troublesome to propagate in the ordinary way are quite easy if stock plants are put in a little warmth and the resulting young growth secured as cuttings. *Bouvardias* can also be readily propagated by means of root cuttings, although all varieties do not come true to character. *Bridesmaid*, for example, from root cuttings always gives a proportion of *Hogarth* fl. pl.

Buddleia asiatica.—Although this plant was introduced during 1874, it is by no means common in gardens, which is very surprising considering how deliciously fragrant it is. A graceful plant, it produces its long, drooping racemes of white flowers during the winter months. It is a native of India and China and is a useful plant to plant out in a cool conservatory. If grown in pots it makes nice plants, the first year, from cuttings, for furnishing the benches, and if cut back during the spring and potted on into 8in. pots they make

long branching shoots some 7ft long. They should be stood outdoors all the summer to ripen the wood. Treated in this manner such plants remain in flower for a long time in a cool conservatory during the winter months. It may be propagated by means of cuttings any time during March.

Buddleia officinalis, a more recent introduction from China may also be grown for winter flowering. It makes a stiff bush and produces very freely its lilac coloured flowers with a deep yellow eye. It is strongly honey-scented, differing very much in this respect from the delicate scented *B. asiatica*.

Tuberous-rooted Begonias are useful and popular plants for furnishing the conservatory during the

summer months. A batch of tubers should now be placed in shallow boxes, with some fine leaf soil and stood in a warm house. As they start into growth they should be potted up into suitably sized pots, using a light rich soil for this purpose. If seed was sown as advised early last month the resultant seedlings should now be ready for pricking off into pans containing light soil. If kept growing steadily and given frequent shifts, a large proportion of them should make good flowering plants for the autumn, when they make a good succession to the older plants.

Royal Botanic Gardens, Kew

include, will, if the colour of the seed is right, swell and germinate satisfactorily but their after performance is markedly inferior to that of good seed.

H. H. HALL.

Polyanthus-Primroses

The biennial method of treatment.

FEW, if any, plants are more a credit to their growers for good treatment than Polyanthus-Primroses—in other words, it is well worth while taking pains to do them well. If anyone starts with seed of a first-rate strain, like the Munstead strain of Miss Jekyll, or the Spetchey strain of Mrs. Berkeley, and follows out the advice about to be given, I feel sure they will be satisfied with the result. Put into a nutshell, it is to treat Polyanthus-Primroses as biennials. To do this in the most satisfactory manner seed should be sown *very thinly* as soon as possible under glass, either in a cold frame or, preferably, in a cool, airy greenhouse.

As soon as the seedlings are fit to handle they should be pricked out in boxes or pans and placed in a cold frame, where they must get constant attention in the way of watering and shading from very hot sun. When the plants become too crowded they must be moved to a nursery bed where they can escape the midday summer sun and, as before, be well looked after.

In late September or early October they must be moved and planted where they are to bloom. If a frame filled with nice light soil is available when the seedlings in the seed-pan are ready to be pricked out, they may be put straight into it, planting them 2ins. apart. It will save one shift. If a great space can be allowed, say, 4ins. or 5ins., there will be no necessity to move them if they can be shaded in July and August, until they are put in their flowering quarters.

After the plants have done flowering they may be thrown away, for there will be another lot coming on to take their place another year. There is no need to save any, unless something most exceptional should turn up.

Given good first-rate seed to start with, the flowers of every succeeding year will be up to the standard of the previous one. What this means anyone may see for himself if he has a bed of some grown on the old perennial system and a bed of others grown on the biennial system now advocated, side by side. The extra trouble involved in carrying out this last treatment is *not* labour spent in vain.

J. J.

THE GERMINATION OF SWEET PEAS

The writer has, in the past few years, carried out many experiments on the above subject, and his recent results have been so satisfactory and so uniform that it is thought his experience may be useful to others.

IT is admitted that some of the procedure is not commercial owing to the detail labour involved, but the enthusiastic amateur will take any amount of trouble if only he can get the very best results. It is to him that the following remarks are addressed.

In the first place, it is well known that lavenders, creams and whites (with pale seeds) usually require less moisture owing to the thin skin; and in trying to avoid having the soil too wet with the consequent danger of rotting it is usual to err in the other direction and have the soil too dry, so that frequently this type of seed is the last to germinate. It may be taken as an axiom that the sooner the seed can be persuaded to sprout the better, as the shorter the time the less the chance of any mishap.

The requisite number of 3in. pots were taken and filled with any good plain potting soil and then immersed in water until it began to percolate through the top, when they were taken out and drained. The soil twelve hours afterwards was in a considerably wetter state than would normally be judged to be safe for Sweet Pea sowing. Each pot—usually in a 3in. pot three or four seeds would be sown—has the requisite number of shallow pockets made in the soil with a pencil, say half an inch deep, and when dry fine sand has been dropped into each pocket, one seed is lightly pressed home and more sand put on until the top of the seed is just not visible.

All the seeds prior to sowing will have been chipped, with the exception of the creams and some of the lavender and mauve seeds. Of the latter, it will be found on examination that some seeds are either not mottled, or if mottled, have a slightly rough appearance, either type indicating a thicker skin than the normal, so that failure to chip these would result in such seeds being late. This varying appearance of the seeds is particularly marked in the case of Lady Eveline, and to a lesser extent, Mrs. Tom Jones. The pots are covered up to exclude light, and must be examined the next morning or at any rate, within twenty-four hours of sowing. Each seed is examined and the appearance at this stage is the crux of the whole procedure; if the moisture is sufficient each seed will have swelled and generally be much lighter in colour and will come away quite dry with no sand adhering. Every seed presenting this appearance can be put back with the practical certainty that it will germinate.

Some of the seeds may not have swelled, in which case one or two drops of water (I am speaking literally as to the drops) on each seed will hasten matters. Others may, on examination, be found to be rather too wet, so that particles of sand are adhering when they are lifted. These should be left on the top of the sand in the pockets without any covering other than the cover to exclude light

on the top of the pot, and again examined in twenty-four hours, to see that they are not still too wet in which case an extra layer of dry sand is added before the seeds are replaced on the top.

Another, and happily, uncommon appearance of a seed when examined the first time after sowing, is when sweating takes place—the skin is not really wet, but appears to be sweating. A little practise will enable this to be distinguished from the preceding case where too much moisture is present. Seeds that sweat are infertile and will not germinate. The writer professes to be able, within twenty-four hours of sowing, to tell without doubt which seeds will germinate, though he admits that he has not the strength of mind immediately to throw out those that are sweating.

If sowing has been done in the autumn the majority should, in normal weather, be sprouting in five days, when each seed is planted properly and brudly. Last October, when the weather was very warm, the writer sowed 100 seeds on Sunday afternoon and over fifty were sprouting on Wednesday morning. This, of course, is quite an exceptionally short time.

If sowing is done in the early spring it is recommended that the sprouting be done at a temperature of about 60° if possible, when the pots are transferred to a cold frame if the weather is not very severe at the time. The writer uses a bathroom cupboard with considerable success for the purpose of assisting early germination.

All this may appear to be a great deal of trouble, but for the small grower it does not take long, and the results are very interesting. Except when doubtful seeds of the writer's own saving—which have been sown in especially marked pots for experiment—were attempted, the results have given less than 2 per cent of failures.

There are one or two points of interest which are not yet elucidated and any of your readers' comments would be welcomed. When saving seeds either from one's own crosses or from other varieties, it will be found that a full pod has the seed farthest away from the stem a different colour—brown instead of black. This seed is worthless and generally a dark brown plump seed of a black seeded variety is sterile. It does not, of course always occur at the end of the pod but often does so.

On chipping perfectly round seeds of some varieties, notably the orange or orange-red varieties and also Tea Rose, it will sometimes be found that the seed is green. It may germinate; the chances are that it will not, and in any case the growth will be bad. The author does not know how to avoid these imperfectly ripened seeds which he has also met in some numbers in the varieties mentioned, obtained from the best raisers; they have not, so far, appeared in other varieties.

On the other hand, some of the most miserable, shrivelled seeds, which no seedsman of repute would

A Beautiful Androsace.—A native of the Southern Alps, *Androsace helvetica* makes a very charming picture in the rock garden in July. A lover of sun, it should be planted rather high up on a steep slope so that—in combination with sandy soil and sharp drainage—there is no risk of it suffering from excess of wet, the greatest enemy that the Androsaces have. Make a note that it loves limestone and pound up a little of this for mixing with the soil. In appearance the plant forms dense little rosettes of leaves above which almost stemless flowers expand pure white with golden yellow throat larger than the rosettes from which they spring. Propagation is best effected in spring by careful division just when renewed growth is commencing, taking care to plant firmly and see that they are kept just damp until roots are working freely again. Established clumps that it is not proposed to divide benefit by top-dressing, both in spring and autumn, with a little fine soil dusted well in among the rosettes. The composition of this top-dressing should be finely crushed limestone and loam in equal parts.

ORCHARD

GARDEN

WOODLAND

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NEXT week's issue will contain an account of the gardens at Harewood House, the residence of the Earl of Harewood, and presumably a future home of the Princess Mary.

Garden Economy.—As the articles which have been appearing on Garden Economy seem generally to have been welcomed, an effort will be made to continue them and even to enlarge their scope. An article in this week's issue on the very diverse varieties of the Polypody should be of interest to those who wish to carry on existing ranges of glass-houses with a minimum of labour and without fire-heat. There are many absolutely hardy Ferns which are highly decorative, while they retain their ornamental appearance much longer under glass. There is no reason, of course, to confine one's attention to Ferns. Flowering plants can be provided which will blossom over at any rate a large portion of the year even in our colder counties. Outdoors or in, true economy largely consists in the provision and use of the best and fittest tools; that is, fitted for their particular purpose. Where there is a large area of lawn mowing to be done, a motor mower is an immense labour saver. Then, too, there are many gardens where "to save mowing" many elaborate beds and paths have been provided which, aesthetically, could well be dispensed with. It is worthy of consideration, now, whether it would not be better and cheaper in every way to invest in a motor mower and at once save labour and improve the appearance of the garden.

Cheap Formality.—The formal garden has its advocates and its detractors. Many garden owners, however, with gardens laid out (as gardens of any size should be) partly on severely formal lines and partly quite informally, have latterly discovered that the formal garden is cheaper in upkeep than the informal one. If the beds in such a garden are arranged in turf, the actual cutting of the grass or edging of the turf is much easier and quicker than where the garden is laid out on curvilinear lines, while the planting of the beds with a line is proportionately simple. The more beautiful the curves in such cases, the greater the need for care in maintaining them; indeed, unless they can be maintained satisfactorily they should not be

employed, since upon their beauty of sweep the whole effect is dependent. The curves are not the only necessary parts of informal gardening, be it understood, but they are absolutely essential. The writer yields place to no one in admiration of good informal work, but he would point out that where strictest economy is a *sine qua non* this class of work should not be attempted.

The Rock Garden.—No unbiased gardener would consider this part of the garden cheap to maintain. To keep it in proper condition involves considerable expenditure of labour. Again, since among choice alpine losses inevitably occur, other plants must, from time to time, be purchased for replacement, or provision must be made by propagation to avoid this. Either course will

necessarily involve some considerable expense since, in the rock garden, many plants are accommodated in little space. No doubt many economists with no special love for alpines have dismantled their rockeries and allowed the easily grown rock plants in their dry walls to suffice. For those who have a real love for this form of gardening, and their name is legion, any sensible alteration to the rock garden is a bitter pill to swallow. It must be borne in mind, however, that nothing known to gardeners looks worse or is more "impossible" than a neglected and weed-grown rock garden. A sensible compromise in such case would, perhaps, be to maintain the moraine and some of the neighbouring cliffs for choice alpine, and to utilise the more distant banks for dwarf-growing American plants, such as Andromedas, Alpine Rhododendrons, Pernettyas and more particularly hardy Heaths. These are wonderfully effective and, the last named especially, to a great extent smother weeds.

The Kitchen Garden.—In this part of the domain efficiency, which is, of course, almost synonymous with economy, depends largely upon good organisation—this is vitally important in every department of gardening—and tools. Labour-saving appliances are many—every good tool may be considered so—but the importance of a first-rate (not necessarily expensive) grindstone, adequately mounted, needs emphasis. Where the garden is of some extent, some of the motor cultivators now in existence should make a big appeal, especially in these days of cheaper petrol. For smaller places (and for the larger ones, too, for finer work) some of the wheeled push-cultivators, such as the Planet Jr., are of great assistance. Where horse-power is available and not at present utilised to full advantage, the merits of a horse-cultivator should be weighed against those of the motor-driven ones. The latter have, however, a great advantage, as, being much shorter, they leave a much narrower headland. There are many grass orchards to private houses into which it is impossible to get a mowing machine owing to a few trees at each end being too near to the boundary. Arises, then, the question, if economy is the order of the day, whether, under the circumstances, these trees are worth their room.



AT ONCE ONE OF THE MOST DECORATIVE AND ONE OF THE EASIEST OF COOL GREENHOUSE PLANTS, PRIMULA MALACOIDES, NOW DISPLAYS ITS MANY TIERS OF DELICATE LILAC FLOWERS.

A NATURAL ROCK GARDEN

The story of a botanising and seed collecting expedition to Le Mont-Ventoux in Provence, with some account of the admirable reafforestation there, the remarkable geological formation, fruits, flowers and ferns, and a strange vegetable.

YEARS and years ago my French botanic friends told me that I ought to see the famous Mont-Ventoux in Provence. So I went two years ago, in the month of September, to Avignon. There I took, with a botanic friend, the motor 'bus leading to Carpentras, where we arrived for lunch—a sumptuous lunch such as they know how to do in that fertile part of fertile France, and how cheap! The land is covered with Vines, Fig, Jujube and Japanese Medlar trees and all manner of things good to eat. Then we took another motor 'bus and reached, soon after four o'clock, Bedoin, a big village at the foot of the Ventoux—Mons Ventosus of the Latins. Too late to make, that day, the ascent of the mountain, because we wished to make it on foot and not on the motor 'bus, we stayed there and did a little botanising in the neighbourhood. The peasants told us, when we admired the lovely fruits—Figs and Grapes: "Take whatever you like; everything is free to visitors. Take whatever you wish!" They would not accept a penny. This is typical of the generosity and greatness of Provence. In an hour's walk we had better luck than we could have imagined: Rosemary, Lavenders of two kinds (*Spica* and *delphinensis*), *Cistus salviafolius*, *Kentrophyllum lanatum*, *Asphodels*, *Aphyllanthes monspeliensis*, *Calycotome spinosa*, *Carlina acanthifolia*, *Salvia officinalis* and *Scalaria*, *Psoralea bituminosa*, *Thymus vulgaris*, *Armeria hupleuroides*, *Helichrysum stekas*, *Aster acris*, etc.; Corsican Pines, Cypresses, evergreen Oaks; while the beautiful *Eriobotryas* and Jujube trees adorned the country. Here and there, in some gardens, the evergreen *Lagerstrœmia indica* and the ideal *bleu celeste* *Ipomœa Learii* gave the brilliant note of the South, the dull Pines framing the whole.

There, up against the blue sky, the Mont-Ventoux shone like a glacier above the dark forests at its base. The glittering summit is a mass of glistening white stones, which the waters clean and polish thoroughly, year by year. We paid a visit to the head forester, who told us that the whole land was reafforested in the year 1861, as the Ventoux was at that date quite barren and unproductive, because of the devastations of past times, particularly when the monks waged war upon the Albigeois and the Valdesians, who were against Mass and the Pope. They burned the forests to seek for Protestants and, before that, for the Albigeois and Valdesians. So did they over the whole country, and hence comes the deafforestation of the Basses-Alpes, Vaucluse and Hautes-Alpes. But by that splendid reafforestation the local authorities have restored the whole of Mont-Ventoux on both the north and south sides. I was very astonished to find there quite a forest of Cedars of Lebanon (*Cedrus Libani*, or maybe some of them were *C. atlantica*). They seem to be quite at home here, and self-sown seedlings come up freely.

Early the following morning we started for the summit and took the superb road, built in 1882, which goes to the summit and is 6½ mds. wide and 22 kilometres long. In summer it is in constant use by motor cars and is perfectly maintained. We passed, first of all, some big Olive gardens where the Olive trees are well kept and

attended to, much better than in Italy. We now found beautiful Chestnut woods, valuable for their output of truffles. Then, at the eighth kilometre, we came upon and viewed with wonder the Cedar forest. The soil is covered with young trees and the slopes of the road are full of them. *Aster acris*, which is like a Galatella, flowers everywhere with the splendid "jone fleuri" (*Aphyllanthes* of Montpellier), while the truly beautiful and stately gold Thistle (*Carlina acanthifolia*) adorned the whole countryside. Its large inflorescence, sins, to rains, across, quite sessile, with its crown of silver *Acanthus*-like leaves, is the most brilliant ornament of the Provençal mountains. The people eat it as an Artichoke, and it is said to be more delicate than the Globe Artichokes, of which we are so fond. The rocks by the roadside are greened with *Asplenium Halleri* and other Ferns, particularly *Polypodium*.

At eight o'clock we reached the limit of the area reafforested (6,000 hectares). We enter now the real paradise for rock and alpine plants. All is lit up by the orange-yellow Pyrenean Poppy (*Papaver aurantiacum* or *pyrenaicum*), which flowers the whole summer until late in the season. As we are late, flowers are otherwise not to be seen. We came here for seeds, however, so that we are not too disappointed. But I ought to see the Ventoux in the month of June, said the botanists, when it is in its glory. Now, of course, there are only autumn flowers visible. But, see! *Androsace Vitaliana* flowering again and its large tufts of dwarf carpet cover the roadsides. We walk over it and the motors pass over it also. Some patches are a yard wide and are covered with seeds (or were, when it is already too late for them). The heads of the Blue Thistle of Provence (*Eryngium Spinallia*) are very curious with their silvery bluish stems and involucre, as finely divided as filigree. Not so finely cut, however, as the alpine one (*Eryngium alpinum*), but how picturesque and beautiful! It grows to 1ft. or 1½ft. high and has a stiff, very stiff, stem of a greyish blue colour. It seems stiff with pride and arrogance, being the one plant—the only one, which lifts its head above the ground. The winds here are so strong, so awfully formidable, that the vegetation is cut down and, like that of the desert, merely carpets the soil. Plants seek the protection of the stones and never can grow more than in. or zins. high. The Thistle alone stands out in the entire landscape.

We enter now the bare stretch of mountain at an altitude of 1,850ft., and at the tenth kilometre of the road everything seems at first sight to be dead. But, see! The desert is alive with the extraordinary vegetation of that curious mountain which is in itself quite a botanical garden. The whole top of the Ventoux we see now, white and glistening. The road cuts the slope and makes a dark line through it. We see the observatory at the summit glancing in the morning sun. And here, at the edge of the roadway, we find treasures and treasures for our collections. The carpets of *Douglasia* = *Androsace* = *Gregoria* = *Aretia Vitaliana* are so thick, so enormous, that we must walk upon them. The orange Poppy is everywhere and its beautiful cups of gold are alaze. Here is the strong scent of

Valeriana saluinca which forms, here and there, large tufts of yellowish-green foliage. Here are *Centranthus angustifolius*, *Campanula Allionii* (immense tufts of it), *Viola cenisia*, *Androsace villosa* (the last not so big as *Vitaliana*, but very widespread and large in size, too), *Iberis saxatilis* (in dense tufts, very compact and full of seeds) and *Dianthus subcaulis* (we came for this particularly) which is very common near the top and forms large, very dwarf and dense carpets. The plant is here dwarfer than in its other stations. Everything here, indeed, is very compact and hidden between protecting stones. At first sight one would fancy the summit of the Ventoux to be quite barren and destitute of life, but, on looking closer, one finds that "Lady Flora" has taken possession of every little corner of the ground and conceals in the fissures and in the crevices of every stone her treasures. The splendid *Androsaces* are surrounded with *Globularia nana* or *cordifolia*, *Teucrium Polium*, *Alyssum montanum* and *flexicaule*, *Iberis Candolleana* and *saxatilis*, *Paronychia* of two kinds, *Herniaria*, *Potentilla petiunculata*, *Ononis cenisia*, *Leuzea conifera*, *Saxifraga Aizoon* (of curious form), *S. oppositifolia* (with big flowers), *Athamanta cretensis*, *Æthionema saxatile*, *Anthyllis montana*, *Draba aizoides* and *tomentosa*, *Galium hypnoides*, *Ceterach officinarum*, *Scrophularia canina*, *Saxifraga moschata*, *Alsine baubini-orum*, *Villarsie*, *mucronata*, *grandiflora*, *tetraquetra*, *Senpervivum montanum* (a curious exception to the fact that this plant is calcifuge), *Silene Saxifraga*, *Oxytropis cyanea*, *Helianthemum polifolium* and *canum*, *Silene vallesia*, *Campanula pusilla* and *valdensis*, and *Phyteuma Charnelii*, which adorn the dazzling slopes.

The top (5,800ft. altitude) is occupied by the immense building of the observatory, which is in direct telephonic communication with the one at Paris. There is also a very good little hotel and some seats to rest upon and admire the unique scenery. From here may be seen the whole of Provence, the sea coast as far as Cete and the town of Marseilles shining in the sunlight. Yonder is Nimes and fairer Montpellier. The mountains of the Esterel and those of the Maures are to be seen to the east. To the north we see the whole alpine chain from the Maritime Alps to the Alps of the Dauphiné, the Barre des Ecrins, the Pelvoux, the Meije, and, above all these, the king, the beautiful Monte-Viso, my especial favourite, there in the far east. However, I was not there as an alpinist, and we went to the north side to find the rare *Aquilegia Reuteri*. From here we could go down to Malaçène by a beautiful way and a nice country, too, but we must by evening be back in Bedoin. So we started at midday by another route, going straight down through an immense field of Lavender and of Thyme and Sage. It was a real pleasure to go that way. The picturesque rocks, bared by wind and water—it is said that the winds there are as strong as those in the Sahara—the fields of *Aster acris* and of *Aphyllanthes*, all the treasures of the South disseminated over the declivities of the Ventoux gave us much enjoyment. I can but advise the amateur in search of beauty to visit that barren yet flower-decked summit where Flora has one of her most remarkable mansions.

Floaire, Geneva.

H. CORREYON.

THREE REMARKABLE CONIFERS

The three species described below all do best in our Western Counties, though the Taxodium is less exacting than the others.

THE HIMALAYAN HEMLOCK.—The genus *Tsuga* includes some of our most ornamental conifers, and of the seven or eight species which have been introduced into English gardens during the last century there is nothing to equal in beauty or elegance a well grown specimen of the Western Hemlock (*Tsuga Albertiana*), such as one sees in Scotland, where it often becomes a magnificent tree.

Its much rarer Himalayan cousin, *Tsuga Brunoniana*, introduced in 1838, is none the less interesting, but unfortunately, like most of the Himalayan conifers, it is apt to be injured by spring frosts and is consequently often seen only in a stunted condition, giving no idea of the size and beauty to which it attains in its native home. In Sikkim, for example, it commonly grows to a height of over 100ft. and is sometimes 28ft. in girth.

In this country it only becomes tree-like in such favoured localities as Cornwall and Ireland, where the climate suits it. The best specimen I know of is the one on Mr. Fortescue's estate at Boconnoc in Cornwall, where there is a tree measuring over 50ft. high by 12ft. in girth near the ground. Here it branches into several stems which spread to about 70ft. in diameter. Young plants have been raised from cones produced by this tree.

The only tree of any size near London appears to be the one at Dropmore, which was planted in

1847, but is not so fine a specimen as that just mentioned. The branch illustrated on this page was taken from a well developed tree in Sir Archibald Lamb's collection at Beaufort, Sussex. When recently measured by my friend, the Rev. A. E. Gregor, it was about 35ft. high and 4½ft. in girth of stem. I have notes of other examples at Menabilly and Tregrehan in Cornwall, Leith Hill, Surrey; while in Ireland there is a notable tree 40ft. high and about 5ft. in girth on Lord Barrymore's estate at Fota, Co. Cork, and other smaller ones at Kilmacurragh and Powerscourt in Co. Wicklow.

The illustration (from a photograph by Miss Brown) shows well the long narrow tapering leaves which at once separate this Hemlock from the American and Japanese members of the genus.

THE DECIDUOUS CYPRESS.—Few foliage trees can compare in beauty with the Deciduous Cypress, botanically known as *Taxodium distichum*. It is an elegant tree with feathery leafage and one to be greatly valued for its light green effect in spring and summer, while in autumn its yellow and light brown leaves form a touch of good colour, which contrasts pleasantly with any foliage retaining the green of summer.

Taxodium distichum has the conical shape of a Cypress, but unlike all other conifers, except the Larch and the Maidenhair Tree (*Giukgo biloba*), it is deciduous. On account of these distinctive characteristics it has gained its name of the Deciduous Cypress.

During the dull season the *Taxodium* is not without charm as some might suppose it to be, for its straight central stem and lacery of shapely leafless branches constitute a tree of unique appearance.

The Deciduous Cypress is a native of the Southern United States. It is naturally a great lover of moisture, and is consequently usually seen in association with streams, ponds, or lakes. Sometimes it will be growing in water a foot or 18ins. deep, but more often in the adjacent marshes.

For riverside gardens, as well as for beautifying small islands in ornamental waters, it is invaluable, and it can be relied upon to give character to the scene.

A marsh is not essential to its well being provided that it is given a moderate supply of water in dry weather, and good specimens are often to be seen on lawns. In order, however, that it should get sufficient moisture, it is desirable

to select for it a low-lying situation rather than one on a high level; unless the latter, as is seldom the case, happens to be a moist one. The artistic character of the foliage is better appreciated if the *Taxodium* is grown in conjunction with some plant with large leaves such as the Gunneras, or the broad-leaved Bamboos, which contrast well with the fine feathery leafage.

The Deciduous Cypress likes a deep loamy soil, and can be planted in early spring, winter, or as



A SPRAY OF *TSUGA BRUNONIANA*.



THE REMARKABLE RESIN-LADEN CONE OF *ABIES BRACTEATA*.

soon as the leaves have fallen. After planting it requires no pruning or attention at all, unless it be occasional watering. It is, therefore, a tree very naturally adapted to the wild garden.

ABIES BRACTEATA.—Discovered over eighty years ago in the Santa Lucia mountains of California and introduced by William Lobb when he was collecting for Messrs. Veitch in 1853, this remarkable Silver Fir is still one of the rarest of its kind. Unfortunately, it has not proved suitable for the British Isles generally and appears to thrive only where the conditions are soft and warm. Nearly all the best specimens are to be found in the gardens of the West Country, such as those of Eastnor Castle, Totworth and Highnam Court. In these places there are trees of 65ft. to 80ft. high. *Abies bracteata*, the Santa Lucia Fir, is the most distinct of all Silver Firs, being well marked from all the rest by three characters, viz., its elongated, sharply pointed, pale green winter buds; its long, rigid, spine-tipped (never notched) leaves; and its remarkable cones, one of which we illustrate. These, as will be seen, are armed with long, stiff spines as sharply pointed as needles, each of which is a prolongation of the bract. The whitish clusters seen attached to many of them in the picture are patches of resin.

Three coniferous trees more distinct and remarkable than those mentioned would not be easy to find, nor three more beautiful.

SOME VARIETIES OF THE COMMON POLYPODY

Many readers are anxious to know what they can grow to furnish an absolutely cold house. As hardy as the proverbial nail, the many varieties of *Polypodium vulgare* supply, at any rate, a partial answer.

ACTING on the principle that a good illustration is more directly informative than descriptive text, no matter how good the latter may be, we illustrate herewith some of the best and most distinct forms of the common Polypody (*Polypodium vulgare*) which, while of necessity having to play second fiddle to the "Hart's Tongue" from the numerical standpoint, is second to no hardy Fern from the standpoints of real hardiness, extreme beauty and simple cultural needs. The varieties are also evergreen and, endowed, amid suitable environment, with considerable powers of endurance, afford us not a little of their best garniture till near the end of the year. With cold house treatment—a method of cultivation calculated to display them to the fullest advantage—their season of leaf beauty is considerably prolonged and one never tires of the opportunity of seeing the best of them at close quarters and marking the changes as these occur.

Both in leaf colour and beauty the Polypodies occupy a place of their own. There is, for example, none of the lustrous green so characteristic of the Hart's Tongue or the russet-brown which distinguishes the *Polystichum*; but in place of these a pale or middle-green tone, difficult to describe, yet ever beautiful and attractive, with just those finishing nature touches which, while intended probably to compensate for the absence of flowers in these plants, also afford variety and create interest.

Turning to the varieties figured in the illustration, we have in those marked one and six the two extremes of the group as at present known; the former the original or typical kind, the latter the most finely plumose of the whole series. Between

these two extremes there are many varieties, some of irresistible beauty and all of interest. Of the latter the student is afforded food for thought by the varieties of *grandiceps*—numbers four and eight respectively—which, entirely bereft of their pinnae and with modified rachis or midrib, have nothing in common with the normal type. Most amateurs would, however, turn instinctively to the more decorative of the set—those which, like the variety *pulcherrimum*, have assumed a wider lateral frond spread, or those others as, for example, *cambricum*, *c. Barrowi* and *c. Prestoni* which, having developed laterally, have also assumed a density and plumosity which render them ornamental in the highest degree. These densely plumose forms have affinity with *cambricum* (the Welsh Polypody), itself one of the handsomest of the race. The variety *trichomanoides*, with its very suggestive name, has the most finely divided fronds of all, and while not of the moss-like density of some of the modern *Nephrolepis*, may yet break into something near akin. Its present state is well shown in the illustration. Its nearest approach is the variety *elegantissimum*—not shown in the figure—a plant rather difficult to obtain true. The fronds are of flatter form than the last, less dense in character, the plant far more vigorous. The true plant is well figured in "Nicholson's Dictionary of Gardening," page 195. There are others, such as *omnilacerum*, *semilacerum*, *cambricum plumosum* *Hadwini*, making up altogether some thirty or more sorts, all of which possess interest or beauty.

All are rhizomatous, that is, they possess running root stocks or stems clothed with ferruginous scales, and are easily cultivated in loam and

limestone chippings or peaty loam. The typical kind is often seen in dry hedgerows struggling for existence, while frequent in woods at the base of trees and again in walls, from which it will be seen that it is not fastidious. Magnesian limestone chippings with strong loam are ideal for *cambricum*, and that excellent variety, so treated, flourishes in a cold house.

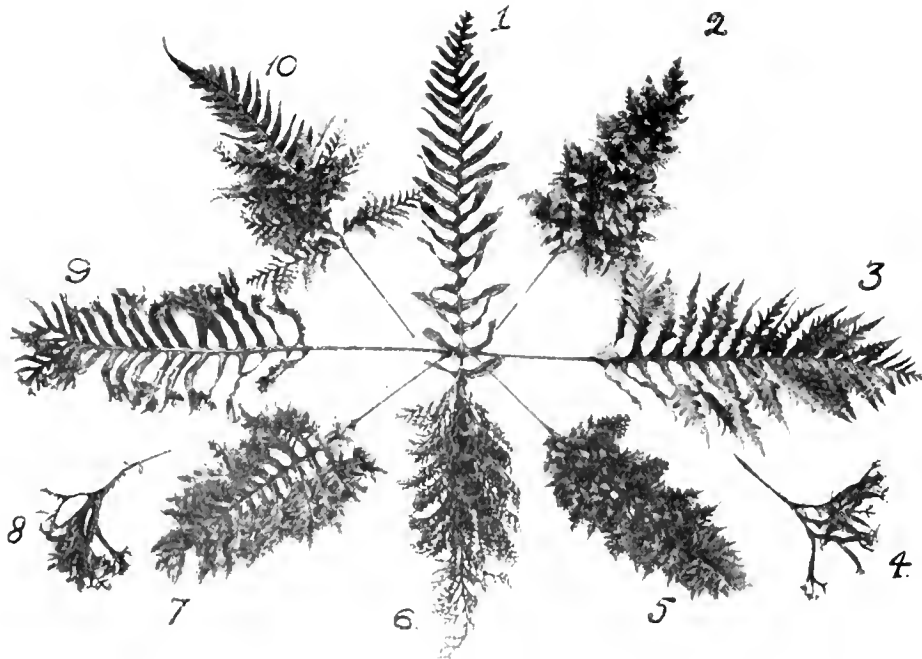
For the opportunity of figuring the varieties in the accompanying illustration we are indebted to Messrs. H. B. May and Sons, Dyson's Lane, Edmonton.

Herbaceous Plants that Flower Early

HERBACEOUS plants that have not begun to flower by the beginning of June can scarce claim a place in these brief notes, which are to deal with those plants that bloom early. On the other hand, there are herbaceous plants that give us of their flowers so early as to be classed by some writers as spring flowers. The convenience of this distinction may be allowed and is apparent. I think, when calling to mind such things as the Lungwort, *Pulmonaria mollis*, which is in full flower by the middle of March; *Anemone sylvestris* and *A. Pulsatilla*; *Aquilegia* of sorts; and the beautiful *Dicentra spectabilis*, which, unless sheltered, is sometimes spoilt by spring frost. However, leaving these on one side, we have a fine array from which to make an early flowering selection.

Though common enough, the Leopard's Bane (*Doronicum*) is very useful. It is a composite, bearing yellow single, *Chrysanthemum*-like flowers. Towards the end of April the first buds of the Mountain Globe Flower, *Trollius europæus*, are almost ready to open. In April, too, one or two of the Yarrows should make a start, particularly the form of the common Yarrow, *Achillea Millefolium*, for example. The month of May ushers in the European *Paonies*, which, in turn, are followed by the Chinese kinds. Where space is limited and only a few plants can be grown the *Paony* ought certainly be one, for, as a writer has well put it, "What is even a cottage garden worth without its rich red *Pyannies*?" Opening also in May is that splendid hardy plant the *Pyrethrum*, which few plants can beat for freedom of flowering, brightness and usefulness. Like the *Paony*, the *Pyrethrum* is quite hardy. Both bear single and double flowers of great decorative worth, whether in the border or indoors as cut flowers. The good qualities of these two plants are also shared by the *Lupin*, of which mention was made a few weeks back.

An old plant not so frequently seen as the foregoing is *Jacob's Ladder*, *Polemonium coruleum*. It is well worth growing where early flowers are appreciated. There is also a useful white variety. Of bushy habit, few plants are more useful for early work than the indigenous *Musk Mallow*, *Malva moschata*. It grows and flowers freely in most soils. Several of the forms of *Chrysanthemum maximum* are ready in June, while *Chrysanthemum latifolium hybridum* may sometimes show itself towards the end of May. Other plants worthy of mention are the gorgeous blue *Alkanets* (*Anchusa*), *Gaillardias* and *Galega*. Some of the beautiful varieties of *Anchusa italica*, such as, for instance, *Dropmore Variety* and *Opal*, are grown in most gardens; but the early and ever-blooming *A. myosotidiflora*, which only grows a foot or so tall, is not so often seen. It is a wonderfully easy and excellent plant. Nor must the brilliant *Oriental Poppies* be forgotten.



THE COMMON POLYPODY (*POLYPODIUM VULGARE*) AND SOME VARIETIES.

- 1, The typical plant; 2, *cambricum Prestoni*; 3, *pulcherrimum*; 4, *grandiceps Parkeri*;
- 5, *cambricum Barrowi*; 6, *trichomanoides*; 7, *cambricum*; 8, *grandiceps multifidum*,
- 9, *cristatum*; 10, *cornubiense*.

With immense variety of habit and an equal diversity of colouring, they are quite indispensable in the early summer border. Pure white, salmon-pink, rose, orange, crimson and quaint smoky tones are all represented, with numbers of intermediate shades. When well grown the Iceland

Poppies too (*P. nudicaule*), are invaluable at this season. They are excellent for cut flower. Another plant which should be included is the perennial Pea, *Lathyrus Sibthorpii*. It grows to a height of about 3ft. and bears dull red flowers in great profusion. C. T.

tained and plenty of atmospheric moisture provided. The plants should be fed with weak liquid manure from the time the first flowers open, for the pots will be crammed with roots, which soon become starved unless treated generously. A temperature of 50° to 55° is ample both for sowing the seeds and growing the plants. H. W. CANNING-WRIGHT.

BLACK-EYED SUSAN

All about a very useful and beautiful annual for the greenhouse or sheltered corner outdoors.

WHERE a restrained grower is needed in a small greenhouse to twine round a thin wire or for very sheltered positions in the open garden against a south wall

the annual Black-Eyed Susan, *Thunbergia alata*, is an ideal plant, the seeds of which can be sown any time from the middle of February to April. The flowers are either white, buff or tawny orange, and each has a dense velvety black eye, forming a striking contrast to the ground colour. Occasionally one meets with self-coloured plants, and very attractive these are, especially the pure white form. A light open soil should be used for sowing the seeds, using small pots and placing a couple of seeds in each pot at the centre. Stand these in a warm position in the greenhouse over the boiler being good, so as to induce rapid germination. The seeds are rather hard, but must not be overwatered or they readily decay, though the soil must not become dust dry. Cover with about half an inch of earth. If sown too shallowly the young plants are apt to push through with the seed case attached to the cotyledons. This toughens and so inhibits further growth of the plant. Should both seeds germinate, one plant should be drawn, and this is best done at a fairly early age or the roots become intertwined and when one is pulled they both come out together. When they begin to climb give them something to cling to, and before they become pot-bound transfer to 5in pots. These are large enough for single plants that are to be trained over a division wall or run straight up to the roof by a wire. Most decorative plants can be obtained by potting up three small plants in the 7in size pot and placing a stake in the centre about 4ft tall. A wire should then be run round the rim of the pot and four or five strands of tarred twine

from this to the apex of the stake. The growths need watching and encouraging to "take," but when once started will run away freely and support themselves. From the end of June onwards wonderful pyramids of flower are attained blossom-



THE UNCOMMON PURE WHITE FORM OF THUNBERGIA ALATA.

ing from base to tip, that remain decorative right into September. One pest alone in my experience is likely to prove troublesome—thrips—and these can be circumvented by occasional fumigations and free syringings with an insecticide. Usually thrips do not prove unduly tiresome. They are most prevalent in hot weather, so that a uniform temperature should, as far as possible, be main-

tained and plenty of atmospheric moisture provided. The plants should be fed with weak liquid manure from the time the first flowers open, for the pots will be crammed with roots, which soon become starved unless treated generously. A temperature of 50° to 55° is ample both for sowing the seeds and growing the plants. H. W. CANNING-WRIGHT.

CAPE PRIMROSES

These plants are invaluable for the cool and somewhat shady greenhouse. They succeed even under staging.

NONE will deny the extreme beauty and daintiness of the Cape Primrose, as the *Streptocarpus* is sometimes called. They are among the most useful of greenhouse plants since they commence to bloom early in May and continue without cessation until November. Raising from seed is an interesting process, for an immense variety of shades, colours and markings result. Seed is extremely fine and requires careful handling until the small plants are some size, and progress is rather slow at first.

Drain the pots to about half their depth with small crocks, covering these with a layer of moss; then fill to within half an inch of the rim with sifted compost, one part of loam, one of peat (finely crumbled), and one of silver sand. Make the surface perfectly level, and water through a fine-rosed can. If boiling water be used it will destroy any insect pests there may be in the soil. Time should be allowed for the soil to drain and cool; then open the packet and thinly scatter the seed on the surface only. It is unnecessary to cover save with a little fine silver sand.

Put a pane of glass over the pan, covered with a sheet of thin brown paper, and place in a temperature of 60° or so. They will not require water for some time, but the glass should be turned daily, or the condensation wiped from it. When water is needed it should be given by standing nearly to the rim in tepid water and allowing it to percolate upwards. Immediately they germinate the paper covering should be removed, though sunlight must not be allowed to reach them. Keep them growing on as rapidly as possible and directly they can be handled they should be pricked out in seed pans zins, apart. Do not delay this; get them pricked off at the earliest possible moment, and, again, as soon as the leaves approach touching each other, pot singly into thumb pots, using a compost of two parts fibrous loam to one of peat or leaf-mould, preferably peat, and a good dash of coarse sand. Water should be given in moderate quantities until they begin to grow again, then a fairly free supply, taking care, however, that none is spilled on the foliage. Continue to shift until the 5in. size is attained, which is plenty large enough for them to flower in. Once the pots are well filled with roots, diluted liquid manure may be given, twice a week. At each potting look well to the drainage.

Streptocarpus are shallow rooting and depth of soil is only harmful, as it may sour. Old plants can be increased by division in early spring. During winter only enough water must be given to prevent drooping of the leaves. They are not at all particular as to temperature, doing in summer quite as well as when only kept free of frost during winter, or when grown in the stove, save that they commence to bloom at a much earlier time in the higher temperature. By growing on different batches they will provide a

continuous succession right through the year. Cultural treatment of old plants merely consists in giving plenty of water and shading from sunlight; they prefer rather heavy shade and a moist, humid atmosphere, always taking care that no moisture rests on the leaves. Huge specimens can be grown by potting on without dividing.

The mixed hybrids provide plants of very neat habit, 6 ins. high, and a great abundance of

trumpet-shaped blooms—pink, mauve, white, purple and blue of all shades. *S. Wendlandii* is curious but not of great value as a flowering plant. It makes one immense leaf and a tall spike of rather small flowers, remaining in perfection for a very long time. There are now quite a number of named kinds in all colours, of immense size and very perfect in form.

A CAMPANULA GARDEN

Large areas of the garden (and THE GARDEN) are devoted to Rose and Iris gardens. Why not spare a little corner for the many beautiful Campanulas?

DURING the latter half of June and through July one of the predominant hardy plants is the Campanula, and an ideal little piece of planting can be arranged by grouping a number of the choicest species of these together, so as to form a small Campanula garden. Nor is there the least risk of this appearing monotonous either in stature, colour range or form, for there is so much beauty and diversity that—in the planning—it is far more trouble to eliminate than to select.

Canterbury Bells, of course, should occupy a good amount of space; these are invaluable for massing especially as by cutting off all the dead blooms as

they fade every plant flowers twice. This is true of most of the upright growers, including the essential *C. persicifolia* and *C. pyramidalis*. The latter is one of the grandest border forms, in addition to being fine in pots, though it is so popular in the conservatory that we are sometimes in danger of forgetting that it can be grown entirely in the open. Towering up to 5ft., it is one of the most commanding varieties of all and should be grouped in outstanding positions.

In the *persicifolia* varieties there are so many fine forms that the type plant is no longer worth growing. *Persicifolia alba grandiflora* is the largest and best white I have seen to date, and no garden is complete without it. *Moecheimi* is splendid for cutting and bears its solid semi-double white flowers with great freedom. The variety *humosa* is another, indispensable for its soft blue shade. It has rapidly become very popular both for the garden and as a pot plant.

Latiloba should not be omitted, for the closely arranged spikes are very showy and do exceptionally well on shaded borders where the 3ft. stems are grand for weeks together. It is in the dwarf varieties that the great charm of the Campanula garden lies, however, for we can pack such an immense number of *chic* and charming little flowers into a small area. Contrary to popular belief, a rock garden is not essential for huge numbers of these. They grow just as freely and easily on the level in great spreading clumps as among stones. Of course, for a few crevice lovers—and those impatient of wet—rocks are essential, but all those I am about to mention will flourish on the level. *Carpatica*, especially the varieties *Isabel* and *White Star*, the former deep blue, the latter pure white, flowers for three months if in a cool position, but it goes out in one great short-lived blaze of glory in hot sunshine. A variety

of this, that is very well worth noting where a plant about 6 ins. high is required, is *carpatica* Little Gem, pure chalk white.

C. caespitosa—of similar habit to *pusilla* and therefore spreading rapidly—makes splendid edgings to beds of the Cup and Saucer Canterbury Bells, the light green foliage and soft blue flowers harmonising excellently with their varied colourings.

C. garganica I find absolutely reliable and hardy, doing well on the level, the crinkled leaves and five-starred tiny flowers making it a most welcome and distinct addition to the prostrate growers. It must have full sun, and this note is especially applicable to the hairy *garganica hirsuta alba*. Given sandy soil and full sun, nothing excels *C. muralis* for edging purposes, for it so covers itself with deep purple bells that one loses sight of the fact that it has any foliage until those bells have faded. From July until the middle of August you have an even band of dense evergreen foliage; then a second crop of buds makes its appearance and—in September—the edge is again smothered with deep purple.

C. nitida is another plant, reaching a height of 6 ins. with whorls of erect stemmed flat blue flowers over dark shining green foliage. Good patches of this are useful next to *C. garganica* as—just as the starry flowers of this are passing—*nitida* commences to bloom and continues into September. *Pusilla* is ubiquitous and should be allowed to run wild in the Campanula garden, for it has a knack of placing itself far more happily than our studied efforts can achieve.

Running between steps, establishing itself in small tufts at the edge of paths or spreading itself in between the clumps of taller growers, where it forms a carpet beneath their handsome spikes—these are some of the ways in which *pusilla* inserts itself into our affectionate regard. Unless absolutely impossible to allow it to remain, few have the heart to root up the dainty little slender-stemmed bell-covered plants wherever they choose to appear.

Do not overlook the charm of our own native Harebell, wilding though it be, for it is one of the most elusively beautiful of all—especially the double form and the exquisite white one. This, like *pusilla*, appropriates as much of the garden for its seedling offspring and has just the same happy knack of fitting itself into just the correct surroundings.

(CROYDONIA.)



WONDERFULLY EFFECTIVE, ESPECIALLY WHEN MASSED—
CAMPANULA CARPATICA.

THE BEAUTIFUL WAX FLOWER

Beautiful by name and nature, this plant is, when in blossom, deliciously fragrant.

THE popular Wax Flower, *Hoya carnosa* from Canton, is one of the warm greenhouse plants most frequently met with, and it certainly is very splendid where a good space of wall, covered with netting, can be devoted to it. *Hoya bella* is, however, an entirely different plant, and it is only occasionally that one comes across it. Unlike *H. carnosa*, it is upright and shrubby in habit, with small, oval glossy leaves. It is short jointed and branches freely. The flowers are pure white with a tiny chocolate red star and anthers at the centre. They are tremendously fragrant, a small plant being sufficient to make heavy with perfume the air of a moderate sized house. The heads of bloom are freely produced and remain a considerable time in perfection.

Additional plants are easily propagated by cuttings taken either in early autumn or spring. Young plants rooted in March frequently flower during summer. It appears to the best advantage when suspended from the roof, either in pots or wire baskets lined with moss. Several young plants should be placed in each. Free drainage



A PLANT OF HOYA BELLA, THE GROWTHS TIED UP TO DISPLAY THE FRAGRANT BLOSSOMS.

is essential, for they do not make much root, and a compost of fibrous loam and coarse sand with a little peat is best. Break the loam and peat into small lumps, add the sand, and pack closely into the pots or baskets, avoiding pressing down hard. The Hoyas like a lumpy soil that does not run closely together, and while keeping uniformly moist, never overwater, as they easily become sickly if an excess is applied. During winter very moderate supplies only are necessary, allowing the soil to become almost dry before giving more. A temperature of between 50° and 60° should be maintained.

If one has only an ordinary greenhouse temperature one may still grow it quite as successfully, but flowering will be a little later, and cuttings should be struck correspondingly later. It will be noticed when cuttings are detached from the parent a white milky juice begins to exude from the stem. They should be laid on the greenhouse shelf for twenty-four hours to callus before insertion, as this reduces the risk of their damping off. W.

FORTHCOMING EVENTS.

February 22.—Irish Gardeners' Association and Benefit Society's Meeting

February 23.—Bristol and District Gardeners' Association's Meeting. Royal Botanic Society's Meeting.

February 28.—Royal Horticultural Society's Fortnightly Meeting. Lecture by Mr. W. Cuthbertson on "Practical Lessons from the International Potato Conference," at 3 p.m.

MY "GENTLEMAN GARDENER"

The following appreciation is worth careful reading as a contribution to the labour difficulty of which we hear so much to-day.

THE fact that I am happily circumstanced in respect of my one and only gardener has moved me to write this appreciation of a worker who is at once a credit to his calling and a continual refreshment to his employer. Am I not justified in believing that this is a theme worthy of attention, even if it be one not before treated in the pages of THE GARDEN? From time to time we read of illustrious gardeners, but here I seek to tell of a very humble person, just one of the rank and file, who doubtless has his counterpart in many another garden, to the abiding comfort of his master or mistress.

During the war I rightly lost my John Allison for a time and was reduced to availing myself of the services of a Trade Unionist of the undesirable type. This individual, like many other Socialistic workmen, passed his days in a state of continual discontent. Miserable and disgruntled himself, he made the garden a place of discord and drove far away the peace which rightly dwells in the flower patch of a man's home. Under his clumsy hands vegetables certainly flourished, but flowers, which are the very soul of the garden, declined, while the choicer varieties wilted right away. Pests unknown before assailed the greenhouse plants. Cobwebs invaded the Carnations, Chrysanthemums sported positive whiskers of rust and Orchids became fastnesses for scale and mealy bug. All this was distressful enough, but when coupled with steady sourness on the part of the alleged gardener it became intolerable. "The garment of praise" was snatched away from the garden, and in place there settled upon it "the spirit of heaviness." Finally, my Bolshevik jumped into a "funk hole" to escape conscription, and for a time we went further down hill horticulturally, while well meaning but incompetent females scratched the surface of the ground in the vain endeavour to carry on.

And then came a joyful day when my soldier returned—returned with all the old skill and keenness, and with fresh store of patience learnt in the hard school of war. After the "grouser," the gentleman; the change of atmosphere was amazing. Of a truth there is no valid reason why there should not be "very perfect gentle" gardeners, even as there have been knights of the same high degree. "Manners mayketh man," be he warrior in steel or khaki, or labouring man armed with no more lethal weapon than a spade. It is not the station in life, but the instinct; not the breeding, but the spirit, which in the true sense produces that delightful being, the gentleman or the gentlewoman.

With this prelude, let me proceed with the appreciation of a servant and friend. To begin with, Allison loves his work; above all, he loves his flowers. When any new or specially gracious bloom appears I have known him snatch many precious moments of a strenuous day just to feast his eyes upon the glad sight, and thereafter to "return like a giant refreshed" to his labours. The first openings of *Gentiana verna*, of *Saxifraga Irvingii*, of *Carnation Lady Nunburnholme*, of *Sophrontis grandiflora* might be instanced, but why expand the list? Every flower-lover experiences like thrills, yet I doubt few paid gardeners are fortunate enough to know and gratify them. Of the average garden worker it may honestly be said:

"A Primrose by the river's brim,
A yellow Primrose was to him,
And it was nothing more."

But the "yellow Primrose" merchant will never capture the real privileges of the craft which he follows, nor is it likely that his master will find himself moved to sing his praises in print.

After the blighting effects of the Bolshevik régime, Allison was faced with an almost overwhelming task. It was not enough to destroy much of the under-glass stock, but the very houses had to be purified. Not enough to remove the weeds from the rock garden and buy new alpines, but the rocks themselves must be unseated to eradicate evil roots which had gone deep to earth with intent to ramp at large in years to come. Of small avail to lift the herbaceous stuff, so weakened was it by seasons of unchecked growth and the overrunning of neighbouring plants. None the less, my stalwart has brought the garden back to its former order and beauty; indeed, like Job of old, I am "blessed more in the latter end than in the beginning." It has been a work of love even more than one of duty, and love, we know, "never faileth."

A while back a branch of the Gardeners' Trade Union—I forget the exact title—was started in this little town, and to the meeting which inaugurated its establishment Allison was invited. A flamboyant handbill was sent out, promising high wages, overtime pay and prolonged holidays. After the meeting I asked my helper whether he had attended.

"No, sir," he replied, "I am satisfied as I am; you and I can arrange things together well enough without any Union."

True words these, words which one would look to hear from the lips of a man who loves his work and has no intention of submitting to outside dictation as to hours or rules of employment upon it. Trade Unions have rendered excellent service to labour in the past. Far be it from me to decry them, but they surely step outside their province when they push into the home and seek to bind those who serve there down to regulations only applicable to commercial undertakings. If a man is happy in the garden, if he knows that his plants often need him early in the morning or late at night, why in heaven's name should he be compelled to "knock off" at a set hour and thereafter spend his time in less congenial occupation?

I wander away from my text somewhat, although the subject is a vital one to readers of this paper. Let me tell now of the past strenuous summer when the unexampled drought brought in its train such scourges as white fly and red spider in hordes like the sand of the seashore in multitude. By cyaniding, Allison slew all greenhouse invaders save the "spider," which paid no regard even to this deadliest of poisons. After taking such an extreme step the ordinary gardener might well be excused for folding his hands and murmuring "Kismet." Not so the man of whom I write. Early and late he has toiled among his Carnations, syringing them by the hundred with water and sulphide of potassium until at last he has exorcised the evil host and cleared his plants of that which was sapping their very vitals. This is but one instance of devotion to his charge. Doubtless many other gardeners have done precisely the same things, but in the catalogue of my friend's excellences I am entitled to set down the fact that he overcame a murrain of red spider, which, to my certain knowledge, is to-day in firm possession of some of the most celebrated nurseries of Carnation growers.

This incident, it may be urged, has small bearing upon the "gentleman" side of him of whom I

VEGETABLE DOINGS

Seed Potatoes: their Care at this Season

tell, but gentlemen were ever good fighters, whether with dragons of old or with evil "bugges" of later spawning. At any rate, I can put to Allison's credit the personal peril of his experiments with cyanide and the cheerful spirit with which he took up the war with new weapons when even poison gas failed.

Recently I had an experience at home which finds no parallel among the considerable number of hands employed in my city works. It happened upon a pay day when Allison remarked: "You had better reduce my wages now food has dropped in price." I had not even hinted that the gardener's pay should follow the Index Figure downwards, so that the man's offer was particularly pleasing and in keeping with his fine spirit. As I recalled the violent opposition to wage reductions put up by the various Unions with which I come into contact, notwithstanding the heavy fall in the cost of living, the thought obtruded itself—what a different thing business would be if Labour occasionally volunteered like suggestions! Bitterness between employers and employed would be impossible were this give-and-take disposition manifested by operatives, and industry lifted on to a happier plane altogether.

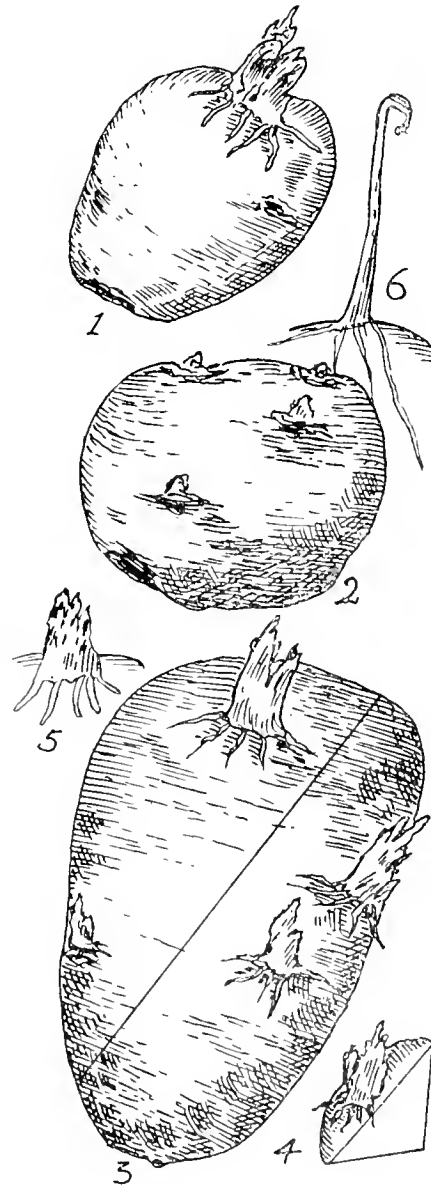
There is a personal side about Allison which strongly appeals to one. Self-respecting to a high degree, he is as neat in his dress as in his work. The man's hands are a pleasure to behold. They are those of the artist rather than of the artisan; well fitted for delicate layering and grafting, and yet strong for heavy labour with spade and axe. My friend is a great reader, especially of any literature relating to horticulture; while he is almost a chemist in the skill and knowledge with which he compounds his various soils and manures.

Probably no relation between master and servant is closer than that which exists between the garden owner and the gardener, provided that both love the plants which they grow. They have a huge hobby in common and that supplies a tie which years do but knit the firmer. I am happy in Allison and I verily believe that he is happy in me. We mutually encourage each other in the dear interest of flowers and we both enjoy our small triumphs the more keenly because we enjoy them together. Surely this is just as it should be, as it cannot fail to be with everyone who is fortunate enough to possess a "gentleman gardener." D. N.

The Cinderella of the Gold Dust Family

A rock plant which is not too common, yet is not really scarce, is *Alyssum spinosum*. It is quite hardy and not at all difficult to grow in sandy soil. It is not particularly effective in the early stage of growth, but once it has attained 1ft or more across is very attractive. It is pretty even when out of bloom, as it forms a mass of silvery grey foliage, studded in summer with heads of small white flowers. There is also a variety with pinkish or rosy flowers (*spinosum roseum*), but these are not pronounced enough in colouring to please the average gardener. This tendency to colour may, however, be valuable, as a variety with deeper coloured blooms would be valuable. It is not easy from a young specimen to understand why the specific name of *spinosum* is applied to the plant, but the name is seen to have a good foundation when the spines which are on the lower parts of the branches are once observed. Good plants will grow to more than 2ft. across. *A. spinosum* is increased by seeds or cuttings. A sunny position seems best to suit this neat and pleasing rock plant.

ALL cultivators should make a very close examination of their stocks of seed tubers forthwith, so that they may have them in the best possible condition at planting time. This examination should not be put off till that time actually comes. Expert cultivators are never guilty of such neglect.



WHAT TO DO AND WHAT NOT TO DO WITH SEED POTATOES.

The winter season has not been a difficult one as regards the storing of seed tubers without recourse to heavy coverings to exclude frost. On the other hand, even light coverings, if left on unduly, would result in weakly unsuitable sprouts. I knew, personally, the late Mr. James Clarke, the raiser of *Magnum Bonum* and other noted varieties. It was a valuable object lesson to inspect his stores of seed tubers in boxes in the depth of winter, since he paid as much attention to his Potatoes in winter as in summer time.

He rarely had to remove any sprouts just before the planting season as ample exposure to light and air resulted in just sufficient sturdy blue-black shoots on the tubers after the removal of weakly ones before Christmas.

Cultivators who have their seed tubers, whether covered or not, in shallow boxes, should lose no time in setting them out in single, or at most, double layers and fully expose them to the light and air where there is not any frost. I know the majority treat the early kidney sorts in this way, but I find it pays to treat second early and maincrop varieties in the same manner.

It is probable that fewer tubers will need cutting this spring than in former years owing to the great number of undersized ware Potatoes. Judging from other growers' experience as well as my own, I find seed tubers of the kidney type, about 3 ozs. in weight, to be the best, and of the maincrop varieties half an ounce heavier to be an equally suitable weight.

The accompanying sketches will be helpful to the inexperienced grower. No. 1 shows a kidney or early "set" as it should be when planted. No. 2 shows a maincrop "set" as it will be, probably at the present time. It will be time well spent if these are overhauled and all sprouts rubbed off except two that are best placed. If large tubers are to be cut they should be dealt with as shown at No. 3, being divided at the straight dark line and the cut portions dusted over with powdered charcoal. If 1lb. of seed of a new variety is to be made to go a long way treat the "eyes" as shown at No. 4. No. 5 shows the kind of sprout to retain and No. 6 the kind to discard. GEORGE GARNER.

The Increasingly Popular Swede

It is very surprising to find how many people are growing the humble garden Swede who despised it so thoroughly until a few years ago. Up to 1917 the Swede was regarded as a crop only fit for farm culture, but the fact that its food value rendered it a good substitute for Potatoes during the severe Potato shortage has brought it into favour with many people. Many gardeners, however, do not get the success that they might on account of sowing it too late. One expert recommended northern gardeners not to sow Swedes until June, and when this was tried it was found that the Swedes grew to no size at all.

My own experience with Swede growing has been that the earlier the seed is got into the ground the better. Sowings in March give splendid results, and April sowings also give fair returns. I have never found Swedes to run to seed, and this makes them suitable on ground where Turnips will not stand for more than a week or so without becoming uneatable.

More importance should, I think, be paid to thin sowing. Large Swedes are, of course, perfectly permissible, for the larger they grow the better they are, but if each plant has to jostle with seven or eight neighbours the resulting roots are poor and coarse. Eighteen inches between the drills and 12ins. between the plants is the absolute minimum, but when sowing it is possible to get some useful material for the stewpot if seed is sown three or four together at intervals of 3ins. It is needless to say that Swedes should not be sown on ground infected with club-root. If this must be tried, lime and salt should some time previously be incorporated in the infected soil. YORKSHIRE.

CORRESPONDENCE

SPORTS AMONG WILD ORCHISES.

I QUITE agree with what is stated in your article on "Mendelism Vindicated," that the loss of the purple colour in our wild Orchises usually coincides with losing vigour in the plant. Near here there are fields full of the Green-Wing Orchis, which I have visited every year for the last forty years to hunt for the few pale pink and pure white forms to be found among the deep purple ones, and I have never once found these pale forms as large as the purple ones. In July last the late Mr. George Paul showed me a fine hybrid between our wild spotted Orchis and the Madeira ones. They had the vigour of the Madeira and the hardy constitution of our native ones. He wanted to cross these hybrids again with our spotted ones and I got him some specimens from Suffolk, the largest I had ever seen, but the work ended with him.—H. H. WARNER, *Hoddesdon, Herts.*

FROM AN OREGON READER.

I AM mailing you some photographs of our garden which you might possibly care to reproduce at some time. I have never made

any notes on gardening that would be of much interest to others. As you will see by the photographs, we have a natural background of tall, very old Douglas Fir trees with some native shrubbery and varieties not native. We have planted our perennial borders in front of this background. We have planned and worked out the garden ourselves, a little at a time. There are grass paths everywhere, and in the rose garden the beds are bordered with Violas. We have about three acres of woods, some of tall Douglas Firs and some second growth, with Dogwood, Maple and Arrowwood, and are just beginning to develop them. We have naturalised the common English Primrose and have Daffodils, Scillas, etc., scattered in groups through the woods. Our climate here, in the north-west, is similar to the English climate, and your paper is much more

which I suppose is different from the English summer.—JANE MONTAGUE, *Portland, Oregon, U.S.A.*

SOME NEW ROSES?

I THOUGHT the enclosed (local) auctioneers' announcement might amuse you. If you can tell me what the first Rose in the standards is supposed to be I shall have a still greater admiration for your efforts than ever! I think "Worthy Perkins" is indeed a "choice and rare" plant.—C. E. A., *Otter St. Mary.*

"To-morrow (Saturday), February 4th . . . will Sell by Auction, at their Offices, a large consignment of Rose Trees and Herbaceous



EARLY SUMMER IN THE NORTH-WESTERN STATES SEEMS NOT UNLIKE IT IS AT HOME.



A COOL RETREAT AT THE BOTTOM OF THE LAWN. A VERY ENGLISH GLIMPSE IN PORTLAND, OREGON.

helpful to us than those published in the eastern states, as they have severe winters and their growing season is so very short. We have practically no rain from July 1 till September, and expect to water our gardens for those two months,

Plants, including:—Dwarf Roses: Edu Ward Herriot Salmon, Louis Walter Silvery Rose, Carolina, Red Head, Arnold Jansen, Echo, Rothati, Edward Herriot, Ulrich Runner, Magna Charta, etc. Climbing Roses: Worthy Perkins, etc. Standard Roses: Than Coildruschtic (White), Gruss and Tiphot (Red), Cariohna Testout, Louis Walter (Silver), Ella Poulsee (Deep Rose), Jessie, Weeping Dorothy Perkins, Weeping Extable, etc. Rhododendrons, Box Trees, Rockery Plants, and numerous other Trees and Plants. The

Auctioneers respectfully solicit attention to the above Unreserved Sale of Choice and Rare Plants. Sale at 2 p.m."

[The above looks to us like an announcement from the "Hong Kong Howler"! The first mentioned Rose among the standards is obviously what less well informed people call Frau Karl Druschki! Like "Worthy Perkins," choice and rare!—ED.]

EFFECT OF DROUGHT ON ANNUAL PLANTS AND WEEDS.

I EXPECT many readers of THE GARDEN will have noticed the remarkable behaviour of seedlings during the past year. I sowed my annual flower seeds in the ground at the proper time and transplanted out the seedlings brought on in boxes; they rushed up, flowered and died or dwindled during the drought. Last autumn all the self-sown seedlings that I hoped to have seen in the spring rose up in great quantities, thicker than I generally get. Some Sutton's Giant Candy-tuft and annual Chrysanthemums formed buds, but were cut down by the frost after Christmas. The Night-scented Stocks, *Matthiola bicornis*, are in thick array, and *Linmanthes Douglasii* is like verdant grass in spite of frost and snow. What is most astonishing to me, however, is to find several plants of *Ionopsidium* in flower. I came across them the other day while weeding a part of the rockery. I sowed some seeds three years ago; they never came up. I had them one year and was so charmed with them because they flowered on quite happily through deep snow and thick frost, but they did not self-sow, so I bought more seed and was very disappointed at the result, and here they are now flourishing. My other surprise is the great quantity of weeds that suddenly appeared. This garden was in a very neglected state when we came, the chief enemies being Sow Thistle, *Sonchus oleraceus*; Chickweed, *Stellaria media*; and Bindweed, *Convolvulus arvensis*—the last two still have "pride of place," though in a much less degree. During the glorious summer no weeds appeared and I thought how simple the autumn work would be. At the beginning of the autumn I noticed masses of tender seedlings appearing in the herbaceous border. I carefully left them undisturbed to see what they would turn out to be; I had not to wait long, for I soon recognised they were thick carpets of Shepherd's Purse, *Capsella Bursa-pastoris*; the seed has been lying dormant over five years, as it is not one of the weeds I have had severe struggles with, only an occasional one appearing here and there and soon pulled up. Red Dead Nettle, *Lamium purpureum*, also has sprung up in all parts of the garden. I have put a glass shade over some of the *Matthiola* seedlings, hoping to keep them alive till spring, but in this Fen garden, unless it is an exceptionally mild winter, such things do not live. It will be a great joy if they survive; not so long to wait for their flowering. I like to have at intervals down my border *Eschscholtzias* and *Matthiola* together; the former is lovely during the day, hiding the dead-like appearance of the latter, and it is a joy on a warm moonlight night to stroll up and down, inhaling the sweet scent that is wafted on the dewy air.—A CHADWICK THOMPSON.

THE LITTLE GARDENS AT RHEIMS.

SINCE writing last I have received for the "Little Gardens of Rheims": Miriam Marston, 25, 6d.; Anonymons (Tewkesbury), seeds. I should like the kind donors of money to know that I intend spending it at a poor and courageous florist's in Rheims. He has built a hut to serve for a shop and a dwelling-place instead of those which were destroyed by shot and shell during the four years of bombardment. He and his wife are recultivating their land,

which was, of course, totally neglected during the war, and are struggling to reconstruct their business. They are such brave, hard-working people and generous, too, for they have given me gifts for their poorer fellow citizens! So the money will serve twice over. I wonder if there is anyone among your readers who, for the sake of doing a good work, would come and help me distribute and divide the seed packets during the next two or three months or part of that time. If so, such an one would have to pay his or her own expenses and would, of course, be unpaid, but the work is interesting and is pro-Entente. One comes into personal contact with these people, and none of them are hostile to the British! On the contrary, they feel grateful and friendly towards them. I am single-handed and there is so much to be done in visiting and advising the owners of the *jardinetts* and in working the garden of the Foyer Féminin. I am so grateful to you Mr. Editor for your great help. You would be repaid if you would come to Rheims in the summer and see the little gardens of the barrack villages.—VICTORIA SLADE, Foyer Féminin, Rheims.

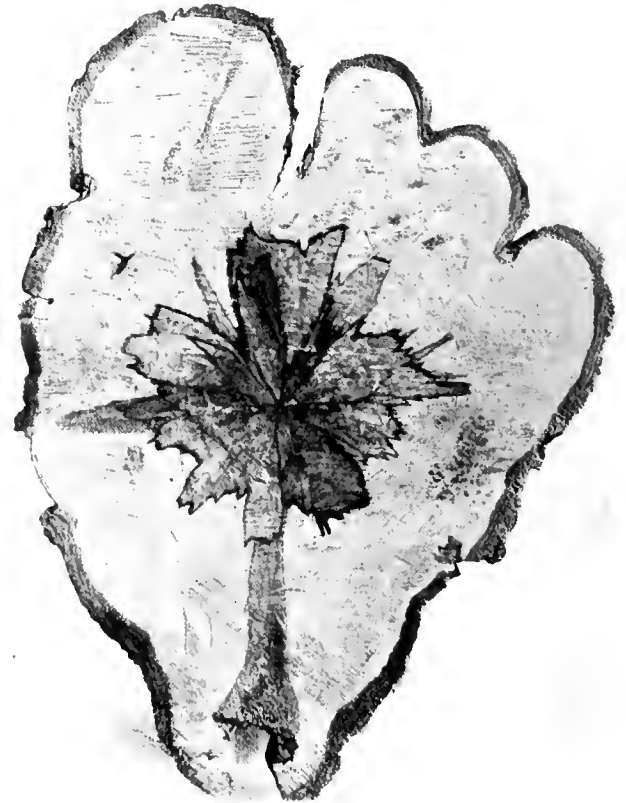
MY LITTLE FORMAL GARDEN.

WHEN my "little formal garden" was being planned last year (a *very* long way) "after Grave-tye," I asked for suggestions improving on my simple plan. A kind reader helped me by advising the 15ft. square centre grass plot should be sunk, and hoped to "hear further news of it later on." So I now venture to write of further grand alterations and improvements. Four arches are being set up over the four paths where they enter the grass plot, and there are now twelve little Lane's Prince Albert Apple bushes (most lovely of all Apple blossoms) and six Louise Bonne Pears, the most beautiful, perhaps, in blossom, fruit and autumn foliage of all Pears. These in combination with the May-flowering Tulips form the fairest picture of all the year—in May. The grass plot was not dug low enough to please me, so is now being carried down some 2ft. to "rock bottom" *literally*. (Let not Mr. Clarence Elliott read this!) It is to have a layer of good soil and be sown with fine Fescue-grass by the advice of Mr. McDonald of Harpenden. All sorts of choice small bulbs will be planted in this next autumn. Now comes the feature. In the centre of the grass plot (and consequently of the whole garden) a little pond is being hollowed out of the rock and lined with Portland cement. This pond measures 3ft. by 18ins., and is 6ins. deep (to serve as a bird bath). Concerning this pond I am undergoing showers of "chaff." Pears are freely expressed that I shall fall in and be drowned. Mrs. "Busybee" says she thinks of buying a

broody hen and a sitting of duck's eggs. Other suggestions are made that I mean to go paddling in it or fishing for minnows, but methinks Hortensia would anticipate me in this last. I do not think I have introduced Hortensia to my GARDEN friends. She is a "common or garden" English tabby kitten, but her mother was guaranteed to be a "super-mouser." Hortensia fortunately proves to have inherited this quality, for Chaffinch Cottage is built on tithe-land and the garden is overrun with (presumably) "poor church mice." —ANNE AMATEUR.

EXTRAORDINARY SECTION TO AN APPLE TREE TRUNK.

IN cutting down an old Apple tree and sawing it up for firewood we found the enclosed plant-like design in the centre of the trunk. Th



CURIOUS PATTERNING OF THE CORE IN AN OLD APPLE TREE.

photograph, although good, hardly does it justice, the leaf-like shape and outline of the "leaves" in the centre having, in fact, a much more natural appearance. Possibly some of your readers may be interested and can tell me why the design has taken this peculiar and interesting natural shape. —ARTHUR TROWER.

THE BUSH APPLE TREE.

I AM sure all interested in the pruning and training of Apple trees must feel indebted to Mr. Pearson and Mr. Thomas for the very practical manner in which they have expounded their different views in recent issues of THE GARDEN. Their different views on pruning may both be right as far as they go, but each talks of his own particular style of tree. Many people admire what Mr. Thomas calls the cordon-trained

GARDENING OF THE WEEK

FOR NORTHERN GARDENS.

The Kitchen Garden.

bush, but not all varieties are suitable for this system; many never get so rigid as he maintains they do. Stakes must be employed or some of the branches be tied to stronger ones in some cases if the trees are carrying a heavy crop. There is no doubt, however, that the system he so well advocates has been practised with success by the gardeners of other days, and I have long been of the opinion that these old gardeners knew more about the best methods of Apple culture than do most of those of the present generation. The point, however, which I wished to make was that the natural habit of the particular variety is the main thing to be studied. I do not think Mr. Thomas would try to grow a cordon-trained bush of, say, Ecklinville; this variety makes a beautiful pyramid, and as such it should be grown. Bramley's Seedling, Mère de Ménage and others of a straggling habit would not be suitable for cordon-trained bush trees. Some varieties, again, will not tolerate severe pruning—Gladstone, for example. It seems to me that no hard and fast rule can be laid down. I know that some growers would agree with what Mr. Pearson says: "I have long ago come to the conclusion that of all the evils which fruit-growers suffer from, close pruning is the most disastrous." I do not agree with him in every case. Certain varieties will stand close pruning, others will not; they cannot all be treated alike. Had Mr. Pearson given a list of those kinds which, grown as pyramids, gave the best results, and Mr. Thomas done the same with those which in his opinion did best as cordon-trained bush trees, I think their contributions would have been of even more value than they are.—P. McCOWAN.

A FLORA OF THE PYRENEES.

I NOTICED an enquiry a little while ago in your paper for a good book on the flora of the Pyrenees. It may be of interest to your correspondent to know that there is such a book published in France which, I believe, is still obtainable. It is "Flora du Département des Hautes-Pyrénées," par L'Abbé J. Dulac, published by F. Savy, Libraire Editeur, rue Hautefeuille, 24, Paris, 1867.—PETER R. BARR.

VEGETABLE MARROW ROTHERSIDE ORANGE.

I REMEMBER Mr. Herbert Chapman showing me some fruit of this variety at one of the R.H.S. Tuesday Shows before he had parted with the original stock. Unless my memory has played me false, it was an almost round fruit about the size of a croquet ball and in colour a buff-orange self. In war-time I bought Gourds because of their well known keeping properties, as in common with many another our garden standpoint was then pretty well reversed. "C. P." in the *Manchester Guardian* put the idea very well in true Kipling style:

"You must dispossess your head of the fallacy that bread is not man's only stay;
Know a plant that isn't eaten is unqualified to sweeten or beautify the day;
That a Lily or a Pansy's not so exquisite a fancy as Leeks and Cabbages;
That Solomon of story once in all his glory was arrayed like one of these."

Since 1918 Gourds have been given a miss and Rotherside Orange Vegetable Marrows substituted. Our experience has been that it is not fixed either in colour, shape or size, which is unfortunate, as the flavour of the true variety is so excellent. Shall I say, as Careless among Gooseberries, so is Rotherside Orange (green and orange striped especially) among Vegetable Marrows? To make a long story short, last year we had the same diversities along with a bumper crop.—J. J.

Peas.—Choose a well enriched portion of the early border for a first sowing of Peas in the open. Where the soil is cold and of a clayey nature a deeper seed drill should be made so allowing for a dressing of old potting soil or other light material, both before and after sowing. Treated thus, germination is more regular and growth more vigorous in every way. Soak the seed in paraffin for a short period before sowing, at the same time giving it a dusting over with red lead, as this proves an excellent deterrent to the ravages of birds or mice in the seed drills. The Pilot, Gradus and Sutton's Early Giant are dependable varieties, while American Wonder and Little Marvel are varieties that can be commended where dwarf growing sorts are desired.

Parsnips.—Where these have been left in the ground during the winter, the crop should now be lifted and stored in cool quarters. The ground may then be prepared for the reception of other crops.

Seakale.—It is also now advisable to lift the remainder of the crowns intended for forcing. Place these closely together at the foot of a north wall or pack in sand in the frame ground until required. Lay aside roots suitable for propagating and have them prepared during inclement weather. Tie the thongs into suitable sized bundles, placing them on end in boxes and cover over with 2ins. or 3ins. of soil until planting time arrives.

Leeks.—Where roots of these are desired early in the season sow some seed in a box indoors now and treat in a similar manner to that recommended for Onions on page 11.

The Hardy Fruit Garden.

Raspberries.—Tie in the necessary fruiting canes and cut away all superfluous or weakly growths. Stir the surface soil lightly with a fork and give a generous mulch of farmyard manure. Newly planted canes should be cut back to within 6ins. of the ground and in this way encourage the production of strong canes for next season's fruiting.

Fruit Under Glass.

Early Vineries.—In houses started some time ago growth will be active and disbudding will now require attention. Considerable care must also be accorded the Vines in regard to atmospheric conditions, as with lengthening days the sun becomes more powerful. Should the weather prove mild, a night temperature of 60° may be maintained, but should it be cold it may well drop 3° or 4° in preference to hard firing. Care should be taken not to over-charge the atmosphere with moisture should dull or foggy weather prevail.

The Flower Garden.

East Lothian Stocks.—Seed of these should be sown now and the resultant plants will be found to flower profusely during the autumn months. Sow in boxes of light porous soil and place in mild heat. Immediately the seedlings show through the soil place them in a light, airy position, so that dwarf and sturdy growth may be obtained. When large enough to handle prick out into frames or boxes and keep as near to the glass as possible.

Sweet Peas.—To save disappointments and in many cases failures, it is well to germinate the seed under glass and plant out during April. Sow now in pots or narrow boxes and start in a cool greenhouse or frame. Do not at any time allow the seedlings to become drawn or weakly. Water sparingly until the plants are well advanced and allow abundant ventilation during fine weather. The novice may well be embarrassed in making a selection from the many varieties now catalogued. If for ordinary purposes it is just as well to rely on the tried and tested varieties of former years, as it is impossible in many gardens to give the ever increasing list of novelties a trial. If in doubt state the colours desired and leave to the discretion of any reputable seedsman, who will readily help in this respect.

Jasminum nudiflorum.—Prune this delightful plant immediately its flowering season is over. Neglect in this respect readily causes accumulations of weak and unripened growth. In cutting out the older growth the new shoots are allowed proper development for flowering the following season.

Hybrid Foxgloves.—Where young stock of these plants has been raised with a view to transplanting in the shrubbery, the work should be carried through as soon as possible. When planting in the

wild garden or on the margin of ponds the groups should be formed in irregular fashion, guarding against anything pertaining to formal arrangement.

JAMES McGRAN.

(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock, N.B.

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Potatoes in Frames.—Where it is convenient for a number of frames to be given up to early Potatoes a start should be made as soon as possible. Bottom-heat, such as produced by a bed of leaves and straw litter, will prove of immense advantage in enabling the plants to make a good start. Should a hot-water pipe run through the frames it will not be so necessary to provide the bed of leaves, etc. Let the soil have a liberal amount of nice flaky leaf-mould in its composition. For this early supply, the tubers need only be about 10ins. or 12ins. from each other and the rows about 15ins. or 18ins. apart. All sets should be nicely sprouted before being planted.

Sprouting Potatoes.—For early work out of doors this should be done at once if not already seen to, by placing the tubers on end in shallow trays or boxes and standing the latter on staging or shelves in a light, airy position safe from frost.

French Beans.—From now onwards this greatly prized early vegetable may be produced in a fairly satisfactory manner even though artificial heating is at a minimum, provided a good hot-bed of leaves and litter can be made up. When the bed is ready place 9ins. to 12ins. of good soil on it, and by the time the heat begins to decline have a batch of plants ready to put out; or seed may be sown in rows on the bed itself. Choose one of the recognised early varieties for this sowing.

Celery.—To provide an early supply a pinch of seed should be sown now in a box of light soil and placed in a warm pit. When the young plants are large enough to handle prick out into boxes or, better still, on a declining hot-bed.

The Flower Garden.

Shrubberies.—The necessary pruning and thinning out in these quarters having been finished, the ground should be dug over. Do not dig deeply and thus injure roots, but do so sufficiently to bury all the decaying leaves which have accumulated. The burying of these leaves is often of immense benefit to the roots of the plants, and it is quite a wrong practice to collect and remove them, unless there is a particularly sound reason for doing so.

Spiræas.—For the margins of water or for almost any damp part of the grounds or woodland drives these plants are admirable, and planting can be carried out for several weeks yet. There is a wide choice to make a selection from, and the flowering period is from spring until the autumn. A few worthy of note are S. Anthony Waterer, S. Aruncus, S. arifolia, S. canescens, S. cantoniensis, S. Douglasi, S. Filipendula and S. tomentosa. Should any pruning be necessary the early-flowering varieties could be done when flowering is over, and the later ones before growth recommences in early spring. To obtain the best effect Spiræas require to be boldly massed, and they rarely look happy mixed up with other shrubs.

Border Carnations.—Where these were potted up and wintered in cold frames the transferring of them to the borders can be carried out now, providing weather and soil conditions are suitable. Their lateness of flowering is a great drawback when early summer displays are required, so a groundwork of an earlier flowering plant, such as Violas, should be arranged for.

Antirrhinums sown in the autumn and growing in cold frames in a few inches of soil must be finally hardened ready for removal to their flowering positions as soon as possible. These plants will provide a fine early display, to be carried on by their January and February sown colleagues.

Fruit Under Glass.

Peaches and Nectarines.—When these trees begin to open their flowers a drier and more buoyant atmosphere should be maintained as an aid in obtaining a more satisfactory setting of fruit. Keep the hot-water pipes nicely warm, and whenever the weather is mild and genial, admit a goodly amount of air by the top and

bottom ventilators, but watch the latter very carefully when cold winds are blowing. At this early season of the year bees and other insects are not very free on the wing, so fertilisation should be assisted by lightly dressing the blooms with a camel-hair brush or rabbit's tail. This operation should be carried out towards midday and a further slight assistance may be given towards the obtaining of a good set by smartly tapping the trellis and the tree's main branches. Recommence the syringing of the trees as soon as a crop is assured, and watch carefully for any sign of green fly, which, if it does put in an appearance, should be at once checked by a light fumigation. Should there be any suspicion of dryness at the roots, whether growing in pots or borders, give a good watering with luke-warm water.

H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

CONSERVATORY AND GREENHOUSE.

Luculia gratissima.—This beautiful greenhouse shrub is not so generally cultivated as it deserves to be. Probably this is due to the fact that it is by no means easy to propagate. With its great trusses of deliciously scented, rose-coloured flowers, it is one of the choicest plants for a cool greenhouse. It is best planted in a bed or border, for it is one of those plants which is seldom happy for any length of time under pot cultivation. *Luculia gratissima* usually flowers during late autumn or winter, and after flowering it should be kept on the dry side at the roots until spring, when it should be pruned hard back, as it produces its flowers on the current year's growth. A native of the Himalayas, this plant is readily raised from seeds. The young plants usually take three years before they flower, seedling plants proving rather variable in quality. Thus good forms must be propagated by means of cuttings. This is best done by means of young growths some 3ins. or 4ins. in length, which should be put singly into small pots and placed in a propagating case with some bottom heat at command. It is most important not to allow the cuttings to flag, it even helps if the leaves are supported and kept in an upright position. I have rooted it successfully on several occasions by means of internodal cuttings, a method which I would advise all cultivators to try when they fail with the usual nodal cuttings. Internodal cuttings are cuttings taken between the nodes, not at a joint. Clematis may be given as an example, while all the Acanthaceae root very readily from such cuttings. One frequently finds it stated that *Luculia* is easily propagated by means of cuttings—a sure proof that that particular writer has never done so. *Luculia Pinceana* has white flowers, but this species is at present rare in cultivation.

The advice to plant out *Luculia* leads me to suggest that many conservatories under present circumstances might have at least a portion of their area planted out with interesting shrubs, as most of them do much better and are less trouble planted out than when grown in pots. Where it is proposed to follow this method of cultivation, existing beds or borders used for standing plants on should be cleared out to a depth of 2½ft. to 3ft., as ample drainage is always essential in such beds or borders indoors. If the soil is 2ft. in depth it is ample for most plants, and less may be used for some. The soil used should not be too heavy, but should have plenty of coarse sand or other gritty material mixed with it, and thus ensure free drainage, for in this connexion we must bear in mind that such borders indoors do not get aerated to the same extent as soil in the open air. Thus with frequent watering one must guard against the soil becoming sour. Sites for peat-loving plants can, of course, be specially prepared. All shrubby plants should be planted very firmly and if plants of any size are put out, the soil underneath them should be made very firm, in fact they are best planted on the top of hard draining material; if this is not done they are apt gradually to sink down until their stems become covered with several inches of soil, and this generally results in their death. There are no lack of suitable plants that may be used for this purpose. With the introduction of many beautiful single Camellias, this old-time favourite seems to be coming into favour again. *C. japonica* var. *grandiflora*, Lady Clare, *magnoliiflora*, Kimberley, a glowing red with a central boss of golden stamens, makes a beautiful table decoration if the flowers are floated in a shallow bowl. Among greenhouse Rhododendrons, done there is ample choice, the sweet-scented Edgeworthii hybrids being very popular, Lady Alice Fitzwilliam being one of the best of them;

also *R. Forsterianum*, *R. Veitchianum*, *R. ciliicalyx* and *R. formosum*, and many others. The beautiful Japanese hybrids are generally supposed to require a fairly high temperature, but I find they do perfectly well planted out in an ordinary conservatory, where the temperature in winter is often down to 45° during the night. Chorizemas, Pimeleas, *Daphne odora*, a many of the smaller growing Acacias, in fact all the smaller growing Australian and New Zealand shrubs may be expected to succeed when planted out. The few plants mentioned will serve to indicate the wide range of plants that may be used. The gardener will soon find plenty of plants to experiment with.

Cannas are very useful plants for furnishing the conservatory during the summer months; if grown in large pots and kept well fed they generally do good service until *Chrysanthemums* come along. If large specimens are required, 12in. pots should be used, putting several good rhizomes in each pot. They should receive very little water until they have made some roots and commenced to grow.

J. COURTS.

Royal Botanic Gardens, Kew.

Awards to Vegetables on Trial at Wisley, 1921

THE following awards have been made by the Council of the Royal Horticultural Society after trials at Wisley.

BROCCOLI.

Awards of Merit.—Early Angers, sent by Messrs. Nutting; Early Feltham, Messrs. Watkins and Simpson, and Barr; Spring White, Messrs. Sydenham; Snow White, Messrs. Sutton; Leamington, Messrs. Carter, Barr and Cooper Taber; Champion, Messrs. Barr, Nutting; April, Messrs. Finney; Evesham Giant, Messrs. Watkins and Simpson; Eastertide, Messrs. Sutton; Roading Giant, Messrs. Sutton; White Emperor, Messrs. Barr; Alexandra, Messrs. Scarlet; Edinburgh Market Late, Messrs. Scarlett; Eclipse (Cattell's), Messrs. Cooper Taber; Swan, Mr. Clucas; Late Queen re-selected, Messrs. Carter; White Mammoth, Messrs. Barr; Edmonton, Messrs. Watkins and Simpson; June, Messrs. Clucas, Finney, and Nutting.

Highly Commended.—Late Feltham, sent by Messrs. Watkins and Simpson, and Barr; Victory, Messrs. H. Hill; Model, Messrs. Dawkins; Tender and True, Messrs. Woodward; Satisfaction, Messrs. Sutton; Lathom Late, Messrs. Artingstall; Longstander, Messrs. Barr; May, Messrs. Nutting; Latest of All, Messrs. Sutton.

Commended.—Mid Feltham, sent by Messrs. Watkins and Simpson.

CAULIFLOWER.

Awards of Merit.—Feltham Forcing, sent by Messrs. Watkins and Simpson; Improved Large Erfurt, Messrs. Sutton; Early Dwarf Erfurt, Messrs. Nutting; Early Emperor re-selected, Messrs. Carter; Early Favourite, Messrs. Barr; Early Dwarf Midsummer, Messrs. Barr; St. Omer, Messrs. Davidson; Magnum Bonum, Messrs. Sutton; Purity, Messrs. Sutton; All the Year Round, Messrs. Simpson, and Sutton; Empress, Messrs. Dicks; Incomparable, Messrs. Barr; Autumn Giant, Messrs. Dobbie.

Highly Commended.—Forerunner, sent by Messrs. Carter; Early Dwarf Best of All, Messrs. Barr; Snow White, Messrs. Clucas; Enkhuizen Market, Messrs. Barr; Snowdon, Messrs. Dawkins, Clucas; Autumn Queen, Messrs. Barr; Summer Favourite, Messrs. Speed; Snowman, Messrs. Toogood; Walcheren, Messrs. Cooper Taber, and Dobbie; Late Giant, Messrs. Dawkins; Metropole, Messrs. Kelway.

Commended.—Eclipse, sent by Messrs. Barr, Nutting, Kelway; Johnson's Market, Messrs. Barr.

CELERY.

Awards of Merit.—Golden Self Blanching, sent by Messrs. J. B. Rice; White Plume, Messrs. Barr; Early Rose, Messrs. R. Veitch.

Highly Commended.—Paris Golden Yellow, sent by Messrs. Barr; Dwarf White, Mr. Clucas; Dawn, Messrs. Carter; Paris Rose, Messrs. Barr; Easy Blanching, Messrs. J. B. Rice; Defiance, (Bibby's), Messrs. R. Veitch, and Watkins and Simpson; Hawlmark White, Messrs. A. Dickson; Favourite Pink, Messrs. Dobbie; Perfection, Messrs. H. Miller; Matchless Pink, Messrs. A. Dickson; Giant Pink, Messrs. Carter; Champion Pink, Messrs. F. Dicks; Standard Bearer, Messrs. Carter, and Watkins and Simpson; Covent Garden Red, Messrs. R. Veitch, and Watkins and Simpson; Exhibition Pink, Messrs. Ryder.

Commended.—Champion Solid White, sent by Mr. A. Barr.

CELERIAC.

Highly Commended.—Ne Plus Ultra, sent by Messrs. R. Wiboltt; Giant Prague, Messrs. Watkins and Simpson; Giant Smooth Prague, Messrs. Barr; Large Erfurt, Messrs. R. Veitch; Celeriac, Messrs. Simpson.

TOMATOES.

Awards of Merit.—Aviator, sent by Messrs. Dickson and Robinson; Kondine Red, Messrs. Watkins and Simpson, Sydenham, and R. Veitch; New Sceptre, Messrs. Dawkins; Beattall, Messrs. Laxton; Hillside Comet, Messrs. R. Veitch; Golden Nugget, Messrs. Barr.

Highly Commended.—Victoria, Whole Salad, sent by Messrs. Burpee; Ailsa Craig, Messrs. Lowe and Shawyer, and Rochford; Orange Sunrise, Messrs. Watkins and Simpson; Golden Sunrise, Messrs. Barr.

Commended.—Water Baby, sent by M. A. Balch.

OBITUARY

MR. WILLIAM BAIN.

THE death, in his eightieth year, of Mr. William Bain severs another link with the past. He will be mourned by many with whom, at one time or another, he came in contact. Mr. Bain was for many years head-gardener to the late Sir Trevor and Lady Lawrence at Burford Lodge, Surrey.

The British Carnation Society's Spring Show, to be held in the Royal Horticultural Hall, Westminster, on March 21, judging from the comprehensive schedule and attractive prize list, promises to be of especial interest. Lady Mond is President of the Society, and the Committee, under the Chairmanship of Mr. J. S. Brunton, is showing considerable enterprise in its efforts to make the forthcoming show the best ever held under the Society's auspices. In addition to numerous increased money prizes for growers and gardeners, valuable challenge trophies are presented by Lord Howard de Walden, Mr. Reginald Cory, Mr. George Monro and others. There are special classes and tempting prizes for florists, notably Class 51, Decorative Exhibit of Carnations on table space 15ft. by 6ft. first prize Covent Garden Challenge Trophy, value £20 and £30 cash, second prize £30, third prize £20. These prizes should bring out London and provincial florists as competitors. The schedule, which is modelled on the Society's new colour classification of varieties, may be obtained post free from the Honorary Secretary, Mr. F. F. Bunyard, 57, Kidderminster Road, Croydon.

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 - Solfaterra.—Beautiful primrose-yellow 2
 - La Tendresse.—Flesh, shading to white 3

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ELSEWHERE in this issue will be found some account of the annual general meeting of the Royal Horticultural Society. The President, Lord Lambourne, while expressing his gratification at the flourishing condition of the Society, said that it must expect the ups and downs incidental to all undertakings. With an annual income from subscriptions alone of upwards of £23,000, and with a balance of more than £4,000 to the good after meeting all expenditure, it must be conceded that the Society is, financially at any rate, in a sound position. The R.H.S. withstood with unimpaired credit the trials and difficulties incidental to a great European war, and now that the tide of labour costs and general charges has passed the flood, it should presently ebb rapidly. It is not easy, then, to see what blows of adverse fortune Lord Lambourne can imagine as impending, unless the Society lose caste and popularity by mismanagement and shortsightedness. Lest such misfortune should befall, we would earnestly ask Lord Lambourne, who is justly and universally esteemed for the very arduous work he has done for the Society, seriously to consider the following points. It is, his Lordship will have well in mind, the on-looker who sees most of the proceedings, and though some of the following remarks are critical, they are not written for the sake of criticism.

R.H.S. Awards.—The Society has lately made a new and, we think, valuable departure in establishing an award of garden merit. Many people will no doubt consider that garden merit is precisely what the award of merit and, indeed, the first-class certificate should have honoured from the first, but that is by the way. The new award is a worthy departure, and the Council are to be congratulated upon establishing it. It would, *prima facie*, appear that awards made after trial at Wisley are in reality awards of garden merit. Are they officially to be considered so? The R.H.S. and the National Rose Society are holding a joint trial of Roses at Wisley next season. The soil of Wisley is not exactly Rose soil, but its light character will manifestly suit some varieties

better than others. Can such a trial be considered satisfactory? The same point has, of course, arisen with many other trials, notably with the recent trial of Tomatoes, for instance. After all, trials at Wisley seldom do more than indicate the best varieties of a particular race of plants for *light soils*; yet on the results of these trials—on these results alone—the Society bestows or withholds its awards.

Plant Breeding.—The Council might well at the same time consider whether they are doing all that might be done to further British horticulture. They have spent, and have still to spend, a very large sum of money on the compilation and publication of a new edition of Pritzel's Index, which is certainly of more botanical than horticultural interest. There are many gardening enthusiasts who do not hesitate to say that the money would be much better spent in systematic plant-breeding experiments carried out at Wisley. Much public-spirited work has been carried out on these lines by private enterprise, but, as a rule, experiments are not carried to their logical conclusion, either because of want of money or on account of shortage of space. This surely is one of the objects to which the Fellows' guineas might profitably be devoted?

A Close Preserve?—It is only right that the Council should know that there is considerable

and widespread dissatisfaction with the majority of the recent awards of the Victoria Medal of Honour. It is not disputed that all recent recipients of this distinction have rendered service, even valuable service, to horticulture, but it is more than open to question whether some of them are, in fact, as they certainly should be, those who, not already possessing the distinction, have done *most* for horticulture. Service to horticulture can be rendered in many ways. It may well be rendered by a journalist! The Council, it will be granted, has, for this reason, done well to honour Mr. John Fraser. It may be rendered by the painstaking scientist, as worthily represented on the list by Dr. William Bateson, or by the intrepid and equally painstaking collector, a class which seems, of late, to have been neglected by the Council. There are, of course, gardeners whose all-round excellence entitles them to distinction. Beyond all these, however, are the men who by skilful but laborious endeavour have given to our gardens whole races of plants. The late James Douglas held this honour, but why, it may well be asked, award the V.M.H. to men of whom, whatever their abilities, few gardeners have even heard; while of such as C. H. Herbert, who has given us a new conception of the Border Pink, the brothers Allwood, who have also done wonders for Pink and

Carnation, and the giants, whose names are household words, who have revolutionised the Bearded Irises, none possesses the coveted distinction? The reason is not, in fact, far to seek. There is a great and increasing tendency—an unintentional one, no doubt—for the Council to legislate not for the benefit of the great majority of the Fellows—not for the advantage of British horticulture as a whole—but for the relatively small clique who run the machine. Work for the R.H.S. should not be a necessary antecedent to the award of the V.M.H. The promotion of *horticulture*, not the *Royal Horticultural Society*, should surely be the "acid test." We know that it is written: "They also serve who only stand in waiting." Does the Council by any chance think it should read: "They only serve . . . ?"



DELIGHTFUL FOR THE SMALL SHRUBBERY ARE ALL FORMS OF THE FRAGRANT PHILADELPHUS LEMOINEI.

HAREWOOD HOUSE AND ITS GARDENS

THE terraced gardens at Harewood House—a future home of the Princess Mary—are among the very finest examples we have of the tendency, which showed itself after Queen Victoria came to the throne, towards a return to the formal style. The work may be compared to that which was carried out at Wilton, where "Capability" Brown, who laid out the original grounds at Harewood, had destroyed the old formal gardens dating from the first half of the seventeenth century. At Harewood there was no earlier formalism as the house was erected on a new site during the first years of George III's reign, when Lancelot Brown was reaching the height of his popularity, and it was not till 1843 that Sir Charles Barry reconstituted the south front of the house, heightening the wings to add bedroom accommodation, removing the central portico and making, from the house to the paved terrace, the magnificent descent of steps that, in one of the illustrations, is seen rising to the level of the main floor of the house which, owing to the rapid slope of the ground, is here raised up on a lofty undercroft. This illustration shows the extent of Sir Charles Barry's work, for it not only gives a glimpse of his altered house elevation, of the main stairway down from it, of the terrace and its lesser descent to the floral parterre, but also shows the grand balustraded and bastioned retaining wall which is the final architectural boundary. Below that is a narrow territory of straight-lined grass

slopes and flats that divides the nineteenth century formality from Brown's "landscape" treatment of the great area on to which the house looks down. That is well shown in the other illustration, taken from towards the eastern end of the south front of the house. Here, beyond terrace and parterre, the lake is seen lying in its hollow. A softly undulating section of the park, set with occasional trees, sweeps down to its eastern bank. A well timbered height shuts in its northern side and above rises the loftier and more distant ridge. Another woody hill shuts out the western end of the lake and the extensive plantations screen the kitchen gardens—far removed from the house, in true Brownian manner—when grassy slopes and winding ways, often represented by artificial mounds and meaningless serpentine—were brought right up to the four walls of the house. Much of Brown's lake-making and tree-planting, however, was good, especially after time had taken a hand in remedying the artificiality of the curves of the timber clumps and water edges. That, in very high degree, has happened at Harewood, where the newer terraces amply satisfy the feeling for architectural and geometric outthrusts to the great classic house, and where nature has so far resumed her sway over the far stretching grounds as to give a sense of tempered wildness and free beauty.

Very different was the scene in 1753, when Edwin Lascelles, succeeding his father in the great Harewood and Gawthorpe estate, felt that Gawthorpe

Hall—the old home of Gascoignes and Wentworths that had only become Lascelles property in 1739—was, in size, style and position, below the mark for a wealthy man of George II's time. The old house stood by the water, which had not yet assumed a lakelike character. An engraving of 1722 shows an ample house of ancient origin, with post-Restoration alterations and additions, including the walled and formal gardens of that period. Northwards from it the land rose to the point where the ruins of Harewood Castle still stand, and some three or four hundred yards up this slope was fixed upon for the sumptuous mansion which was to encompass all that John Carr and Robert Adam could contrive that was best and newest of its day. Begun in 1759 the house was not complete until 1771, when the family moved into it and the old hall was demolished, all trace of dwelling and walled gardens being obliterated as wholly irreconcilable with the landscape effects which Brown was to carry out in its immediate environment. There the stream became a lake covering fifty acres and the adjacent slopes became "belts" and "clumps" of Beech and other trees. In more recent times there has been in this region a further development of garden amenity. The surface of the lake is dotted with Water Lilies, and from its banks rise such moisture-loving subjects as reeds and Astilbes, Irises and Water Forget-me-nots. A long walk through the Beech woods brings you to the kitchen garden, not wholly given up to the edible Cruciferae



HAREWOOD HOUSE. A GENERAL VIEW OF THE TERRACES.

and Papilionaceæ, but also to their floral cousins, such as double Rockets and Lupins, that flourish amid many other old-fashioned flowers in ample borders. Nor must we forget the glass houses,

against the sombre green of the noble summer-clad trees that form the background. In the parterre the growth and colour-riot of the bedding plants are checked by the note of severity given by the

Yorkshire is a beautiful county. In dale and dell it is often scenic and grand. In softer moods it is rich and smiling. Harewood is on the edge of such contrasting regions. From the higher points of the park the eye can roam on one side up Wharfedale and on to its enfolding moors, while on the other side the vale of York stretches out its fertile expanse, and on clear days the twenty mile distant Minster towers are seen rising at the horizon. But landscape and horticultural amenities by no means exhaust the catalogue of Harewood's charms. The interior still shows much of the decoration and furniture which, as surviving drawings prove, Robert Adam designed for it in 1765 and following years. The ceilings of saloon and gallery are the most striking of the many he introduced. The music room has not only the ceiling he set there, but the carpet which he had wrought in corresponding design. All the wall incident, doorways and chimney-piece, stucco panel and framed landscape, remain untouched and combine to make the room historically the most perfect as well as artistically one of the most beautiful in this house of splendid interiors, furnished not only with the admirable pieces that Chippendale produced for the first Lord Harewood from



A PORTION OF THE PLANNED GARDEN.

where a vinery has long been the home of a Muscat of Alexandria that rivals in size and age the Hampton Court Black Hamburg. A tablet informs us that it was planted in 1783 and that the house that contains it was enlarged for its accommodation in 1839. The woodlands afford scenes of great beauty. Beech and Birch, Cherry and Robinia rise high and leave gaps for the sheltered and half-shady homes of massed Rhododendrons. Oaks also flourish, and near the house are ancient Cedars of Lebanon—so frequently a legacy from Lancelot Brown, who used them freely and well.

Good design, full purse and splendid local free-stone quarries combined to give ample dignity and rich extent alike to eighteenth century house and nineteenth century terraces. The house is 250ft. in length, the formal gardens extend 100ft. beyond it at each end and 150ft. before it to the south, so that this grand group of highly wrought architectural incidents occupies an area of two and a half acres. Size alone may merely yield a sense of clumsiness and oppression. Not so here. Sir Charles Barry contrived to maintain a unity of design in the house he altered and the gardens he added. Forms, proportions, details are individually right and are harmoniously blended into a disciplined whole, where house and stairway, terrace and retaining wall, parterre and fountain, statuary and vase, take their place in regimental subordination and uniformed array. It is big and splendid, but also it is harmonious and sympathetic. Glancing again at the illustrations, how arresting is the long line of balustrade, with its ordered breaks of bastion and steps broadly framed by the continuous and restful extent of grass bank below and gravel walk above. The rich play of light and shade on the stonework tells delightfully

hue and form of the clipped Yews. The insistent note of architecture, so loud and strong in stately step and balustraded wall, is sufficiently struck in the floral area by the great stone-backed benches at either end and the intervening many-angled pools from which rise statuary fountains.

Harewood is just sufficiently separated from Leeds by distance and intercepting hill to retain its rural aspect. Where mines and manufacture have not seared its surface and thickened its atmosphere,

Adam's designs, but also the spoils of France—gilt Louis XVI suites, Beauvais tapestries and Sèvres china—which the second Lord obtained as wreckage saved from the storm and stress of the French Revolution. At Harewood for a century and more they have lain in safety and in peace. May that be likewise their future destiny, as also of their present proprietor, the fifth Earl of Harewood, and after him of his son and Royal daughter-in-law.

H. AVRAY TIPPING.

THE GREENHOUSE PRIMULAS

PRACTICAL NOTES ON THEIR CULTIVATION IN SCOTLAND.

Southern readers should find the following notes helpful if they bear in mind that it is unwise here to sow until, at any rate, the middle of April.

WITH the lengthening days the Primula is making a great show in the conservatory. One wonders what the conservatory could have been like at this season of the year before the Primula made its appearance in all its varieties and gay colours.

First we have the Star varieties in all their glorious colours, with beautiful stellata flowers tiering above the elegant cut foliage. What glorious effects may be produced if the colours are well chosen for grouping. White Star and Pink Star used together make a very fine group. Dark Blue Star and White Star grouped together and associated with a few plants of Primula malacoides also give a pleasing combination.

One very effective group is Dark Blue Star and Primula kewensis, the Dark Blue Star showing up the pale yellow flowers of kewensis. Primula kewensis gives little or no effect by itself owing, I think, to the paleness of its foliage, but if grouped with the Dark Blue Star or even with Primula malacoides it provides a combination that never fails to please.

Then we have Primula obconica with all its shades of mauve, approaching to blue on the one hand and to crimson on the other. This Primula seems happy anywhere and gives very harmonious and restful effects when grouped with other plants. The mauve flowers never seem to clash, as the colours of other Primulas are apt to do. One very happy association

is that of *Primula obconica* with *Arum Lilies*. The dark green foliage of the "Lilies" shows off to great advantage the pale mauve flowers of the *Primula*.

One of the most important points in the cultivation of these *Primulas* for keeping the conservatory gay during the winter and spring months is to make successional sowings from the end of February to the end of June. The last sowing provides plants for small pots suitable for the decoration of the dinner table. The best varieties for this purpose are *Primula malacoides* and the Star forms of *Primula sinensis*. The seed should be sown thinly and evenly. *Primula* seed, as a rule, germinates very irregularly. The soil for the seed-pans should be of a very light nature, with a good sprinkling of silver sand. Pass the whole through a quarter-inch sieve, the rough material that is left over being used for covering the drainage. Fill the seed-pan with the fine soil and make it firm, give a good soaking with a fine rose and allow it to stand until thoroughly drained before sowing. The seed sown, cover lightly with silver sand, as this tends to prevent "damping off" when the tiny seedlings come through. Place the seed-pans in a house with a night temperature of, say, 55°.

As soon as the seedlings begin to grow and show the first rough leaf, prick them out into boxes about 2 ins. apart and keep close for a day or two until they get well established in the new soil.

The soil for the boxes should be of the same nature as that used for the seed-pans, with the addition of a little powdered charcoal. In about ten days or so remove the boxes to a warm frame and keep them near the glass in order that the plants may be robust and stocky. Admit air without undue draughts. In due course they will require a shift into small pots; 3 in. is a very suitable size. The soil used for this potting should be a little rougher, with the addition of burnt ashes and soot.

The soil should be well firmed round the neck of the plants to keep them from rocking about. This applies to the Star varieties. Place them back in the frame and keep close for a few days, with light sprayings overhead until they recover from the check. After that air should be given on all suitable occasions to keep them growing stocky and prevent damping.

The compost for the final potting should consist of a nice, rich fibrous loam pulled to pieces with the hands, with the addition of good, flaky leaf-soil, burnt ashes, bone-meal, powdered charcoal, silver sand, and a 6 in. pot of soot to every barrow-load of soil.

After the final potting place the plants in a cool frame with an ash bottom. Frames facing north are to be preferred, as no shading is then required and they receive welcome cool-shaded light, so beneficial to the development of that nice dark green foliage. During the afternoons of bright days a light spraying overhead is very encouraging to their growth, especially if clear soot-water is used, as it keeps away all insect pests while growth is finishing. The frame-lights should be pulled off altogether at night, as the plants enjoy the heavy dews of late summer nights. When they commence to send up their flowers a house with a night temperature of, say, 50° to 55°, with plenty of air night and day, suits them well.

These past two seasons I have planted out *Primula malacoides* in the rock garden, and they have come through very successfully, withstanding 15° to 18° of frost, and to-day, after the heavy snowfall we have had, are pushing up their fairy-like *liac* flowers.

Forfarshire.

G. S. LONDON.

LITTLE GROWN BULBOUS PLANTS

The good points, failings and cultural requirements of the Tigridias.

FOR ordinary garden purposes *Tigridias* may be taken to be *Tigridia Pavonia* and its seminal varieties. These are half hardy bulbs whose ancestral home is Mexico. Whether all the varieties which we now have come to us ready made, or whether they are the result of a change of environment and have appeared for the first time in different parts of Europe I am unable to say,

a black and white print. We all of us, naturally, compare the new and little known to something we know very well; hence as I have used tea-dust to make my tea for many years, I invariably think of the necessary strainer that goes on the tops of the cups to keep the small bits out of the liquor whenever I see a *Tigridia* in bloom. The spotted centre is the perforated part of the strainer, and the three ears are the parts which fit on the top of the cup. With respect to colour, few flowers have more brilliant shades than some of these. Bright carmines and orange-reds, beautiful yellows and pure whites are all to be found in the different varieties.

Why, then, is the Tiger Flower so little known? The reasons probably are two: (1) The individual flowers only last a few hours, and (2) as they usually open in the night, long before evening comes they have turned into miserable-looking objects of incipient decay. I would urge, however, that the glory of a fair-sized bed on a sunny July or bright August evening, far outweighs all that can be urged against them.

They are just as easy to manage as *Gladioli* and require very much the same treatment. Plant in May, or earlier, in districts where there is no likelihood of frosts coming to injure the young foliage, in light, rich soil, 3 ins. or 4 ins. deep and about 6 ins. apart. Later on, when hot weather comes, give them a good mulching of old cow manure, or anything that will keep the ground moist. Occasional waterings of liquid manure when the plants are in bud and during the time of their blooming are immense helps and promote larger individual flowers and a longer period of bloom. My bed suffered greatly in the long period of drought last summer as there was no water to be had for

the garden; but, thanks I suppose to a plant here and there getting its feet into something it liked, we had a few fine specimens. One of these is figured in the illustration and was nearly 2 ft. high.

After the first autumn frost the bulbs should be lifted and the foliage completely dried, when it should be carefully broken off. The bulbs may then be stored in dry sand or light earth in a frost-proof place where no moisture can come, until the next planting time, when the larger ones may all be expected to bloom.

In preference to buying "mixed *Tigridias*," I would rather buy the bulbs in named varieties



A CHARACTERISTIC PLANT OF *TIGRIDIA PAVONIA*. THE VARIETY IS RUBY QUEEN.

Note the unexpected tiger's head in the flower as photographed.

Although the Kew Hand List (1915) is silent upon the subject of *Pavonia* hybrids, and so leaves us entirely in the dark as to their origin, one at any rate—*conchilora*—was introduced direct from its South American home in 1824, and *Pavonia* itself in 1796.

The illustration gives those who do not know *Tigridias* a better idea of the habit of the plants and the very uncommon shape of the flowers than any mere verbal description. The palm-like look of the leaves, the spotted central depression and the peculiar eared look of the flower as a whole stands out as its most obvious characteristics in

and make my own mixture. One can then control one's bed and only have the colours or shades one likes. For example, lovely as are the pure white grounds with their smart ruby-red markings, the contrast between them (*grandiflora alba*) and the red and yellow shades of *carminea*, *Ruby Queen*, *Pavonia speciosa*, *conchiflora* and others seems to me to be a little too violent to be altogether pleasing. On the other hand, there will be some who will think the introduction of a few whites makes a good foil to the brighter colouring of the others. *Chacun à son goût* is a very wise proverb to bear in mind when writing of matters of taste. Another thing that urges me not to commit myself is the difficulty of nomenclature. When catalogues do agree their unanimity is wonderful. Perhaps, however, I may venture to say that in my own "foolish

opinion" (a grand and never-to-be-forgotten phrase this of an old gardener I once had) *Pavonia speciosa* (orange-red), *lilacea* (syn. *Ruby Queen*) (ruby-red) and *conchiflora* (rich yellow) are among the most effective varieties. *Rubra*, *carminea*, *rosea*, *purpurea*, *Wheeleri*, *Le Géant*, *Le Géant Rose*, *alba*, *alba immaculata*, *canariensis*, *lutea immaculata*, *cœlestis* (?), *alba grandiflora* and *rubra grandiflora* are all to be met with in different lists. I do not know all of them, but of those I do, I can truthfully say some seem very much alike.

As *Tigridias* are not expensive bulbs, and may be had for about 3s. a dozen or less, might I suggest the getting together a little collection and the growing them in trial beds as a mild floral excitement for 1922. I feel sure a good many visitors will not know them. JOSEPH JACOB.

TOPIARY AS AN AID TO ADVERTISING

IT seems strange, at first sight, that horticulture, the earliest art practised by man, should, in these latter days, be brought into the service of the latest, viz., the art of advertising. Yet this is being advocated by a firm of publicity agents, who are using topiary work as a medium for advertisements. The idea is to utilise Yew trees, trained and trimmed into the semblance of birds, animals and objects of common life, as living announcements of somebody's foods, beverages, soaps, fountain pens or other commodities popularised by our "national" advertisers. Thus, for brands of tinned milk, butter or cheese, they are offered the figure of a cow, cut out of and in a growing tree; for eggs, whether fresh, "farmer's" or desiccated, they have Yew trees shaped like a sitting hen, or a duck; while for a popular make of margarine the agency suggests a tree clipped to resemble a pheasant! Yews can be easily trained and cut to form a circular, wreath-like growth, representing a lifebuoy; this would act well as an advertisement for a certain soap-making firm who use that nautical form of life-saver as its "strange device."

Swans, again, are common in topiary work, and trees so shaped obviously lend themselves to the advertising of a well known fountain pen. The manufacturers of dogs' biscuits, even, are catered for by means of a group of Yews bent and trimmed to represent a dog-kennel, with a small tree in front, cut like a dog! For a feather manufacturer there are trees shaped like an

ostrich, while cabinet-makers can have one so like an armchair that one feels tempted to sit in it. Brewers, wine merchants and distillers are easily accommodated, since bottle shapes are a common form of topiary work. Even shops, stores, theatres, cinemas, cafés and tea-rooms are similarly catered for. Teapots, cups and saucers, plates and loaves are easy to form in the yielding Yew, and trees so shaped would well serve to call attention to the establishments displaying them. Globular forms and ball-like growths are among the simplest to grow and trim; their uses, as advertisements, are many. Such articles as atlases, billiard balls, toy ballcons and ball-bearings are obviously subjects for advertisement by means of Yews so shaped, while a certain metal polish, using a globe as its cognisance, is simply "asking for" a globe-shaped Yew! But, so many are the forms which can be outlined by the plastic, patient Yew that the promoters of this novel publicity scheme profess themselves capable of catering for practically almost any demand by one or other of their vegetable advertisements—their, literally, growing announcements.

The main idea is to plant these shaped Yew trees alongside railway huses and main roads, replacing those hideous hoardings known as "field signs." Further, to identify the plant with the object of publicity sought by their display, painted aluminium lettering will be supplied to form the name of the firm, brand or proprietary article advertised. This will be suspended from and on the trees, while in the case of retailers, cinemas, cafés, etc., the shrubs may be planted in tubs, the sides of which will afford space for bold advertisement. The originators of this novel advertisement "stunt" estimate the cost of upkeep of these trees, including a yearly trimming, at £1 per annum, and they put the price of them at from 20 to 25 guineas each.

As growing and clipping a given design out of and in a Yew tree takes from eight to sixteen years, it is obvious that no advertiser, wishing to get rich quickly, could afford to wait for his special designs to be grown. Accordingly

the agency has purchased a large stock of ready shaped trees, and these it offers to artistically minded advertisers, only one "line" to be used by one maker of a given commodity. Lovers of Nature and horticulture will doubtless welcome this new system of vegetable advertisement and plant publicity, for these living pictures, these growing



SHE NEEDS BUT A PEN HUNG FROM HER BILL TO COMPLETE THE ADVERTISEMENT.

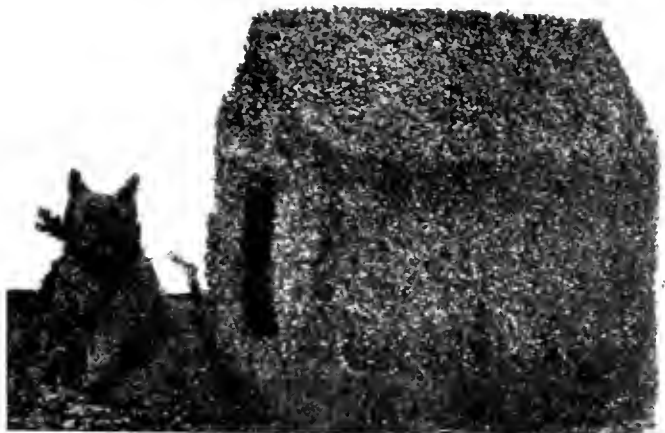
announcements, are certainly preferable to the blazing posters, the tin dogs, wooden watches and metallic cows at present desecrating the fields adjacent to our railway lines; they are, at least, natural in essence, if artificial in form.

E. W. RICHARDSON.

Lachenalias that are Sweet-Scented

FOUR out of every five people when they come to see my *Lachenalia*s say, "Now if you could get that scent (the scent of *glauca*) into those (the mixed-up hybrids of *tricolor*, *quadricolor* and *aurea*), you would find everyone would want them (the hybrids). It would make all the difference." I feel they are right, and for years I have been trying if one could not bring off a marriage between *glauca* and some of my best hybrids, but all to no purpose. There is an incompatibility of something which prevents them falling in with my plans, and at the end of their flowering season we are as we were. Next year there will be a sufficient quantity of *pallida* to allow us to try that variety, as by singular good luck we have a very late yellow variety with which to mate it. We live in hopes. Meanwhile may I put in a good word for both *Lachenalia glauca* and *L. pallida*. It may be partly from sentiment, as their delightful perfume brings to mind far distant days when the golden *Cytisus* was to be found in spring time in every well appointed conservatory, but they do appeal to me. The taller and larger bluey green *glauca* and the shorter and smaller *heliotrope* tipped *pallida* are both of them sweets of the sweet, and are well worth growing wherever sweet flowers are appreciated. They come into bloom when the last of the hybrids mentioned above are getting over, but except for the difficulty of experimenting in hybridisation, since all *Lachenalias* dislike anything approaching to forcing, this late blooming is no detriment. Of the two species *pallida* is the most reliable, and makes a more even potent than *glauca*, which is always a little erratic in its growth.

J. J.



WHO SAID PUPPY BISCUITS?

THOUGHTS ON THE TREATMENT OF INFORMAL STEPS

SOME few months ago (*THE GARDEN*, July 30, 1921, page 378) there was published an article which dealt at some length with the very important matter of garden stairways, but very little was said about the unpretentious, but very necessary, informal stairways which, properly treated, add greatly to the attractions of the wild or rock garden or other portions of the grounds which may be informally treated.

Very formal steps, even steps as formal as those illustrated on page 483 in the issue of *THE GARDEN* for September 24 last, detract considerably from the charm of an otherwise natural-looking rock garden. Not that steps need necessarily look as if they formed part of the geological formation upon which the garden may be supposed to rest, though it does, in such case, improve the appearance of the whole if some of the steps give that impression. The eye then feels that the others have been used to best advantage to join up Nature's handiwork. Needless to say, if such effects are to be attempted the design and execution of the whole garden must be of the best, or the illusion will fail and the whole thing look theatrical. We are wandering, however, and that is just what our steps should do; nor will it seem suitable to most of us to employ stone dressed to any extent even with the hammer, though obviously sharp corners which might damage feet or ankles should be removed.

On the steps, as in other parts of the rock garden, there is too often either a total dearth of furnishing, which is displeasing, or the planting is too obviously planting, too diversified in character and too spotty in effect.

Observe the quiet restfulness of the picture of the Woolly-leaved Thyme (*Thymus Serpyllum lanuginosus*) on an informal flight of stairs. This is, it must be allowed, one of the most effective of carpeting plants, but the sum total of effect is due not so much to the qualities of the plants themselves—lost as they partly are in black and white—as to the breadth of treatment. Quiet simplicity and dignity can only be obtained by breadth of treatment.

The other picture shows steps rather more substantial in character, adorned with a little

colony of *Campanula garganica hirsuta*. For a fairly important path, such as this obviously is, the planting seems just a thought too heavy. One feels that, after a shower of rain, walking up these steps would not be altogether a happy business for the feet and ankles! Had this been a bypath used only for attending or inspecting some of the gardener's treasures, this objection, needless to say, would not apply.

The treatment of steps and paths through the rock garden (leaving aside turfed paths or ways) is the most unfortunate part of many otherwise fine conceptions. To see admirably balanced masses of stonework, with the actual stones happily placed and the plants fittingly arranged, spoiled by an unnatural path of crazy paving, broken here and there by equally "crazy" steps, is a pitiable sight, but one far too common. It would be far, far better to gravel the path than to lay it so, for the crazy paving as generally laid forms a wretched kind of compromise between the natural and the artificial. A pathway formed of the same kind of stone of which the rockery itself is composed, and so laid in little shelving steps as to give the impression that the path has been formed by splitting it from its bed, is in a



A "CASCADE" OF *THYMUS SERPYLLUM LANUGINOSUS*.

totally different category. It represents an ideal worthy of attainment, and in many stones—and these the most suitable for rockery construction—easy to attain.

For situations where kindly Nature has provided no stonework, and Man has not thought fit to introduce any, rough steps formed of the natural earth (faced with gravel if the soil is of a sticky texture) and retained by balks of wood are useful. The rougher the timber used the better, as a rule, the effect. If a handrail is called for, it may be supplied. It will not be beautiful, but let it, at any rate, be secure and *look* secure. "Rustic work," so called, however employed, is an abomination; a worshipping of false gods. It has been said that, in the informal garden, steps may well be allowed to wander. Let us hasten then to say that by "wandering" something different is meant than a meaningless meander. One should feel, instinctively, that the course of the steps is induced by the lay of the land and by no other consideration.

There are few things in a garden which add more to its charm than happily placed and simply laid out stairways. Looking at the other side of the picture, there are few more unfortunate objects than an over-elaborate or ill-placed flight. Whether the flight be formal or informal, there seems to be but too much temptation to make it unduly complex and over-ornate. In the garden breadth of treatment and, above all, simplicity are essential.



SIMPLE BEAUTY. *CAMPANULA GARGANICA HIRSUTA* HAPPILY PLACED.

NEW AND RARE PLANTS

THERE was quite a good and interesting show at the mid-February meeting of the R.H.S. and a correspondingly good attendance, augmented, no doubt, by its being the occasion of the annual general meeting of the Society.

Primula Princess Mary.—The dainty little *Primula malacoides* is generally well known and appreciated for its graceful whorls of flowers. The species has, of late, been greatly improved upon, and of the several varieties *Princess Mary* is distinctly one of the best. The flower stems are much taller, and the more numerous whorls have larger and more substantial flowers of rosy mauve colour, but this greater size has not been obtained at the expense of grace and elegance. This variety seems to have a better constitution than most, for it is said that the plants do not damp off, as do so many others. Award of merit to Messrs. Carter and Co.

Miltonia Lord Lambourne.—That this new Orchid should receive both a first-class certificate and a silver-gilt flora medal indicates that it is

an exceptionally fine variety, and this is so. It is the most gorgeously coloured *Miltonia* that has yet been raised. The segments are deeply flushed with rosy carmine and have narrow white margins. Awards to Messrs. Charlesworth and Co.

Odontioda Cora.—The well formed blooms of this *Odontioda* are of greater size than usual, and they are well disposed on the erect spike. The colour is a warm chocolate maroon. Award of merit to Messrs. Charlesworth and Co.

Clematis F 559.—This is one of the new Clematises collected on the Da-Tung Alps in China and, awaiting investigation, was shown under the collector's index number. The plant had been forced into bloom, so it may not be a true indication of the merits of the novelty, which, judging from the specimen, is not great from a gardener's point of view, though it may probably appeal to the hybridiser. The plant is of somewhat straggly growth, the leaves were few and undeveloped, while the smallish flowers, which are borne on rather long wiry stalks were stippled

with pale blue. The blooms were set almost at right angles to their stalks and presented a semi-double appearance. Shown by Mr. A. C. Woodward, Arley Castle, Bowdley.

Saxifraga × Mariæ-Theresæ.—The plant on view was a little turf of glistening silvery leaves with short stemmed, bright crimson flower buds which expand to a very pale, almost washy, pink. The flowers are very small. Shown by Mr. P. Rosenheim, East Molesey.

Narcissus St. Valentine.—Several pots of this were shown, but they did not impress one as being of exceptional merit. It is a "Cyclamens of *Barrii* form". The chief attraction is the bright corona. Shown by Messrs. Herbert Chapman, Limited.

Although the Narcissus Committee met for the first time this year, and the florists' shops and many street hawkers are offering Daffodils in quantity, these flowers were singularly few in the hall. The most noteworthy representatives were the many blooms of grand *Soleil d'Or* at the back of a little group by Messrs. Barr and Sons. These Narcissi were of rich golden colour and served perhaps as a foretaste of what we may expect in the near future. There were a few



THE NEW "NAVEL ORANGE"—CITRUS SEEDLESS WASHINGTON NAVEL.



PRIMULA MALACOIDES PRINCESS MARY. THE PLANT IS GROWING IN A FIVE-INCH POT.

Crocuses, and the quaint Grape Hyacinths were to be seen in an occasional exhibit.

The greatest exhibit of spring bulbs was by Messrs. Segers Brothers, Dutch growers who do a strictly wholesale trade. They had many Tulips, including the Darwin Le Nôtre, of lilac pink colour, which, when forced, retains stiff stalks and does not flop over. Victoire d'Oliviette is darker than the carmine Bartigon and may be forced into bloom three weeks earlier. The double Tulip Mr. Van der Hoef is a good yellow, while El Toreador may be termed a crimson and fawn Keizerskroon.

The early Irises were again prominent among the alpine. *I. reticulata*, *I. histrioides* and its varieties were all beautifully blue, but the most uncommon and attractive was *I. persica*, a quite dwarf, sturdy Xiphion Iris, which is slightly violet-scented. The deep velvety blue blotches on the lip contrasted finely with the golden colour on the beardless keel. It was shown by Messrs. Waterer, Sons and Crisp, who, by the way, had quite the gayest and brightest of the spring flower exhibits. *Adonis amurensis* fl.-pl. drew attention to its quaintness in having a centre of vivid green inside a ring of golden petals.

The all too few plants of the charming little hardy Cyclamen were to be discovered in Messrs. Barr's exhibit. These were two varieties—*rosea* and *rubrum*—of the Caucasian *Cyclamen ibiricum*. The tiny flowers retain all the grace of the perfect *Cyclamen* form and were very brightly coloured.

The greenhouse *Cyclamen* was represented by gathered flowers of the Sheepwell strain from the gardens of Mr. E. Wormall, Sheepwell House, Potters Bar. These are said to be fragrant, but fragrance in *Cyclamen persicum* is an elusive quantity under the best of conditions, and we could not detect any, though perhaps the weather was too cold. The flowers, however, were well grown.

The great decorative value of their new *Primula Princess Mary* was well shown by Messrs. Carter and Co. in a large exhibit in which it figured abundantly, together with the *stellata* variety *Fairy Queen Improved*, interspersed with pots of miniature Hyacinths of many colours and bowls of Tulips.

Among greenhouse plants we noted *Begonia manicata*, which is now rarely seen in private gardens. It is an evergreen species of very easy cultivation in a cool greenhouse, and even when not in flower the large, stout, pale green leaves are handsome. The blush pink flowers are produced in long, branching cymes. It is an adaptable plant, equally as ornamental in a 5in. pot as in the largest size.

The most showy of the trees and shrubs were the sprays of *Parottia persica*, thickly studded with fat buds just bursting and disclosing the brilliant crimson filaments. A few warmer days would suffice to make the trees strikingly beautiful. In addition to its spring effect, this small tree is one of the best for autumn colour. Messrs. J. Cheal and Son showed it, and near by had a compact bush of the long-flowering *Pieris* (better known in gardens as *Andromeda floribunda*). *Sarcococca ruseifolia* is rather a rarity at the R.H.S. shows, but we noted a little colony bearing quantities of yellowish white flowers and the shining purple fruits of last year. It is not a showy shrub, but one that is useful for planting in shady places.

NEW FRUIT.

Citrus Seedless Washington Navel.—The large bright golden fruits attracted a deal of attention, not unmixed with a desire for acquisition, for they presented a most attractive appearance. Of their flavour one cannot speak, but if like the

common Navel Orange it should be good. The fruits were large, of flattish egg shape and possessed the characteristic navel-like centre. Award of merit to Messrs. T. Rivers and Son.

Besides the basket of fruits which received the award, Messrs. Rivers had, among a valuable collection of Citruses, heavily fruited bushes of this variety, the Horned Orange, Egg Orange (St. Michael's) and Thomson's Improved Navel Orange of the broad-leaved section. The Myrtle-leaved Orange was represented by a couple of small bushes, also heavily laden with golden fruits. This, which once was fairly common in the larger gardens which possessed the indispensable "Orangery," has now become rare in cultivation, but it is an ornamental bush for the cool greenhouse. Its habit is neat, the leaves are only a couple of inches or so long, of shining green colour, and the variety flowers freely under good cultivation. Another desirable Orange for the cool greenhouse is the Oonshiri or Satsuma Orange, shown as the "New Japanese Orange from California." The association is not clear, but probably the place of distribution is indicated. That, however, is as may be, but it fruits freely as a medium-sized bush, and the dark green leaves are of moderate size. The fruits are similar in appearance to those of the well known Tangerine Orange. It was quite a memorable exhibit of Oranges and Lemons, and one that it would be difficult for any other nursery firm to duplicate.

Hardy fruit was represented by a collection of Apples from the gardens of Mr. R. Montagu Turner at Bedfords, Havering. Besides such sorts as Cox's, Rival and Winter Ribston, of great dessert value, but well known to all who attend the R.H.S. meetings, there were several varieties which are not so popular, though of equal merit, and of these the old-time favourite, Cornish Gilliflower, was of excellent appearance.

Novelties in the vegetable line are scarcely to be expected, and the nearest approach was a goodly collection of Sutton's Variegated Kale, which is quite ornamental when growing and is said to be good eating, though one's fancy would naturally turn to their Extra Curled Scotch Kale.

Royal Horticultural Society's Annual Meeting

WITH such a President as Lord Lambourne any general meeting is bound to proceed smoothly and pleasantly, even if there had been any differences of opinion held by the members on policy. Lord Lambourne creates such an admirable atmosphere of good-fellowship that it was small wonder to find that everyone left the R.H.S. annual gathering with the full conviction that all's well with the horticultural world. The President, however, spoke seriously and with intent on the subject of illicit commissions which, he stated, were within his own knowledge tendered by an unscrupulous minority, a state of affairs which "reflects discredit on all classes concerned."

The only bone of contention, if it were contention, related to the presumed lack of reasonable facilities for reaching the Wisley Gardens. Lord Lambourne explained that a London General Omnibus, which leaves Weybridge Station at regular intervals, will carry visitors near to the entrance and also that the matter was still being considered by the Council.

The suggestion that the provision of a gallery in the Hall would ease congestion by providing for

those who wished to get a general impression of the exhibits met with definite settlement by means of the L.C.C. regulation, which will not permit one.

"Correlative Science" was somewhat of a poser. Many of the Fellows endeavoured, with more or less success, to accept it as an everyday matter, but were obviously relieved when the President confessed that he "wasn't sure he understood what



JOHN FRASER, V.M.H.

was meant." But it is to receive the early and earnest attention of the Council.

Home-grown bulbs are again to come to the front, for the Council have arranged a show of dormant bulbs to be held in the autumn and this is to be followed by a spring show of flowers in 1923. This should be valuable assistance to the already thriving industry.

Mention was also made of the alliance with the National Rose Society and the projected trials of Roses at Wisley, which will perhaps be a step onwards towards a National Rose Garden.

The Treasurer, who seconded the adoption of the report, was most hopeful of the financial future of the Society. He remarked upon the new policy of putting by sums of money to act as an insurance fund for the gate at the Chelsea and other large shows against loss through unfavourable weather, a policy which met with general approval. In speaking of his own resignation, Mr. C. G. A. Nix said he felt that with the increasing financial work the treasurership should be in the hands of a more experienced man than himself and he was of the opinion that in Mr. C. T. Musgrave the Society has found an excellent treasurer. There was no election, as the various nominations did not exceed the vacancies.

The presentation of five Victoria Medals of Honour was an exceedingly interesting part of the meeting. The recipients were Lord Lambourne, Mr. John Fraser, Mr. W. A. Bilney, Mr. Wm. Poupard and the Rev. Arthur Boscawen. The Lawrence Medal was awarded to Messrs. Dobbie and Co. for their exhibit of Tulips at the Hall on May 10 and 11 of last year, and the medal was handed to Mr. W. Cuthbertson.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Cucumbers.—The bed of leaves and manure having been prepared and allowed to settle down, small mounds of soil, sufficient in number to receive the plants, should be placed in position to become well warmed before planting is done. Should it be inconvenient to arrange for the bed at present, the young plants must be potted on and not allowed to become stunted, for having been sown early last month it is quite time they were growing freely.

General Work.—When the soil is in a good working condition lightly run the hoe between plants of Winter Spinach, autumn-sown Onions and Carrots, giving the first two a dusting of soot at the same time, removing also any decayed foliage from the Spinach. Where a portion of the Onions are for transplanting it may be done now on to a well prepared piece of ground in rows 15 ins. apart. As different batches of winter greens are used up, push on with the preparation of the ground, so that when wanted later the minimum of time will be necessary in its final usage.

Seeds to Sow.—When the soil is in a workable state Parsnip seed should be sown without delay. A deeply worked piece of land should be chosen, and where this is of a heavy texture choose a stump-rooted variety for preference to minimise deformity of growth. Between the rows of Early Peas on a warm border sow seed of Spinach. Seed of Carrots may be sown on a warm border.

The Flower Garden.

The Spring Beds.—Plants occupying these beds should be examined and all losses made good from the reserve plot. Choose a day when the soil is fairly dry so that the surface of the beds may be stirred a little and chance seedling weeds destroyed.

Hydrangea paniculata.—All weakly wood should be removed and strong growths cut back to stout basal eyes when pruning this plant. The present time is a suitable one for planting fresh positions with the Hydrangea, and should it be the aim of the planter to introduce other plants into the bed the spacing of the Hydrangeas must be arranged accordingly. A spring display may easily be arranged for by giving the bed a carpeting of Polyanthus, Forget-me-nots, &c. A well enriched soil of a good depth is necessary to get the best results from this Hydrangea, and if possible, a good annual mulching should be worked into the soil each spring.

General Work.—Flower beds not occupied with plants for a spring display may be dug thoroughly, working some humus into the soil if thought necessary. Viola stools should be lifted and, after giving what attention is necessary to the site, they may be carefully divided and replanted. In some districts this replanting of the old stock will have to be done on a larger scale than usual this spring owing to the scarcity of cuttings available last autumn. A sufficient stock of Sweet Pea plants should be arranged for. Grow them as sturdily as possible. Should the weather be unfavourable for any ground operations, see that all stakes and brushwood are in order for use among the plants on the borders during the season.

The Hardy Fruit Garden.

Autumnal Raspberries.—These are useful where a long Raspberry season is appreciated, but at present they do not appear to be particularly well known, or, at any rate, very popular. To those first planting this section it must be mentioned that the fruit is borne on the new wood each year, so when pruning, cut the canes down to the ground within a few stout buds. This can be done now, and, if necessary, a much of well decayed leaves and manure given. It is not too late to plant, provided the business is attended to at once.

Fruit Under Glass.

Melons.—The main soil ingredient for the successful cultivation of this fruit is good fibrous loam, to which may be added a small portion of spent Mushroom manure, a little mortar rubble and wood-ash. Whether grown in pots or beds, a firm rooting medium is necessary to prevent grossness of growth, which is oftentimes a forerunner of canker. So arrange the fixing of the plants that when in their permanent quarters the soil immediately around the stems is slightly raised above the remainder.

H. TURNER.

(Gardener to the Duke of Northumberland)
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Cucumbers.—Growth should be encouraged by keeping the atmosphere warm and moist. Stop the leading shoot and thus encourage the necessary quantity of lateral growths for covering the trellis. Avoid overcrowding of the foliage and, as the fruit sets, thin freely, as over-cropping readily exhausts the plant and tends towards deterioration in the quality of the fruit. When the roots show on the surface add a top-dressing of rich compost and thus add to the vigour and longevity of the vine. Should dull weather prevail at this time do not syringe the foliage. Damping of the walls and paths will suffice.

Sprouting Potatoes.—Seed of early and second early varieties should be examined and placed in shallow boxes to sprout. Everything possible should be done to encourage a slow development of sturdy growth, for if the finest results are to be obtained from the early crop, the seed should receive every attention that can be bestowed on it. When the tubers are allowed to lie in heaps and produce long sprouts that are easily damaged or eventually rubbed off, the seed naturally loses much of its vitality. Give plenty of light after growth is visible, but until then a partly darkened structure is best. In our northern district, May Queen, Midlothian Early and Sharp's Victor are favourite sorts for early work.

Asparagus.—Place another batch of the roots of this popular vegetable in a forcing pit or warm frame so that regular supplies may be maintained. Cover over with about 4 ins. of soil and pack firmly between the roots. Asparagus will force readily in a temperature of from 55° to 60°. When growth appears, spray overhead during the afternoon with tepid water.

Saladings.—Sow turnip-rooted Radishes at regular intervals on a gentle hotbed and, should the weather be frosty, cover the sashes with protecting material as the slightest check at this period causes toughness in the root. A quick hearting variety of Lettuce may also be sown for pricking out in frames later. Weekly sowings of Mustard and Cress should also be made in boxes and placed in a warm vinery, thus ensuring quick and tender growth.

The Hardy Fruit Garden.

Peaches and Nectarines.—The pruning and training of Peach trees or Nectarines out of doors should be no longer delayed, as given a favourable spell of weather the buds will now swell rapidly. Provided the trees received proper attention during the summer and autumn months, very little wood will now require to be cut out, with the exception of any odd shoots that may have to be removed to avoid overcrowding. In carrying out the training, first tie in the principal branches, distributing them evenly over the allotted space, and then lay in the young shoots in such a manner as to give the tree a well balanced appearance. Should traces of scale or red spider be noticed the trees should be cleansed with a dressing of Gishurst's Compound before being tied in. Apply the dressing with an ordinary paint brush, working from the base to the point of the shoot and, in this way, lessen the likelihood of damage to the buds.

The Flower Garden.

Herbaceous Borders.—Any re-arranging of plants in the hardy border should now be carried through, provided the soil is in good, workable condition. In preparing the border work in a generous supply of leaf mould and well rotted manure, as most plants in the herbaceous border are gross feeders. When planting, group the various plants in good-sized masses.

Single Dahlias.—From seed sown now nice strong plants may be had ready for planting out early in June. Sow in pans containing a light, rich compost and germinate in a genial temperature. When the seedlings are about an inch high pot them separately and stand in a warm frame for a period. Guard against the ravages of slugs.

Polyanthus.—Sow in boxes of good sweet soil and exercise patience in awaiting the germination of the seed as at times this is both slow and irregular. Place a piece of dull glass over the seed box, as this helps to keep the soil moist. When the seedlings are sufficiently advanced, prick out into boxes and gradually harden off by placing in a cold frame, finally transferring to nursery lines in the open border about the end of May

JAMES McGRAN,

(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock, N. B.

CONSERVATORY AND GREENHOUSE.

Cannas in small pots for greenhouse decoration are not so generally grown as their merits deserve; this, probably, because their cultivation in this way is not generally understood, yet by growing successional batches they may be had in flower right throughout the summer months. If there is plenty of heat at command a start can be made early in January, but where it is not desired to use so much heat, now is a good time to make a start. An average temperature of 50° will suit them very well, allowing it to rise to 60° with sun-heat during the day. For this method of cultivation good strong rhizomes should be selected, using one strong lead for each pot; they should be placed directly into 4 in. pots, potting them on afterwards into the 6 in. size. Use at all times a rich compost, as they are gross feeders. One-third of the compost should consist of dry, well decayed cow manure or old mushroom-bed manure, which will obviate the need for leaf-mould. As the rhizomes are very apt to decay, they should have but little water until they have made some root and have started into growth. When in full growth they enjoy liberal supplies of water and plenty of feeding. Growth should be restricted to one strong shoot, which—if the right varieties are used—should flower when about 18 ins. in height. The following are a few of the sorts that are suited for this particular style of cultivation: J. B. van der Schoot, President Meyer, Alphonse Bouvier, Elizabeth Hoss, Frau E. Kracht, Duke Ernst, R. Wallace, Königin Charlotte, Gaekwar of Baroda, Papa Crozy, Meteor and W. Watson

Tuberoses are again being offered by dealers. When received they should be potted into 4 in. pots, afterwards shifting them into the 6 in. size. If it is desired to force them, they should be placed in a temperature of 65°, plunging them in a bed with bottom-heat at command. They require careful watering until they have made some root and started to grow freely, when the temperature should be increased to 70° or 75°. As the flowers appear they should be removed to a cool house. If it is not desired to force them, they may be grown under much cooler conditions, in a temperature of, say, 50° to 55° or so, for in the south they will grow outdoors during the summer in light, warm soils.

Watsonias are sometimes offered by dealers about this time, and they are very desirable for the cool greenhouse. The most beautiful one for pot work is the white-flowered *Watsonia Meriana* (triflora) Ardeni, which is frequently sold as var. O'Brienii. Four or five corms should be placed in a 7 in. pot. In common with most South African bulbous plants, they only require a cool greenhouse temperature. Very little water should be given until plenty of roots are produced and the plants commence to grow. Well grown examples reach a height of some 3 ft.

Liliums.—As bulbs come to hand they should be potted up at once, since they quickly suffer if left exposed to air. If there is any delay in potting they should be kept covered with moist leaf-soil or fibre. Many species of Liliums are stem-rooting. In potting such, room should be left for a top dressing of several inches of soil. *Lilium auratum*, *L. speciosum*, *L. Henryi* and *L. regale* are good examples of stem-rooting Liliums. *Lilium regale* is a beautiful species for pot cultivation and is easily raised from seed. With good cultivation it will commence to flower when about two years old, as also will *L. sutchuenense* and *L. tenuifolium*; in fact, the use of home-grown plants raised from seed is the only way successfully to grow and to keep many beautiful Liliums. When flowering bulbs are potted they are best stood in cold frames, where the pots should be covered with leaf-soil or fibre. This keeps them moist and does away with the necessity for frequent watering until they have made plenty of root and commenced to grow. If cold frames are not available they may be stood outdoors at the bottom of a wall, covering them with leaf-soil.

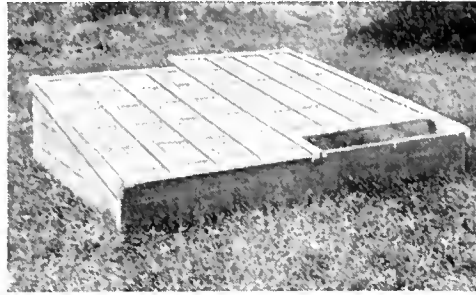
Erythrina Crista-galli is a beautiful plant for the cool greenhouse, and a stock of plants can easily be raised from seed at this time. It is also easily raised from cuttings, taken off with a paring of old wood—like Dahlia cuttings—when the shoots are about 3 ins. long. Old plants which have been kept dry all winter should be started in a little heat at this time and will soon give plenty of cuttings from the old woody root-stocks. In dealing with young plants care should be taken not to dry them off too much during winter until they have made a fairly large root-stock. I have seen several batches of young plants lost in this way, through the ignorance of young cultivators.

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MARCH MORNING.

Four corners to my garden span,
 Four almond trees in bloom . . .
 What should I ask of God or Man?
 My heart has no more room!

V. H. FRIEDLAENDER.

Secret Commissions.—Last week's "Notes of the Week" were devoted to the consideration of some aspects of the work of the Royal Horticultural Society. This week it may be well to consider some of the points made by the President in his speech at the annual general meeting. Lord Lambourne said that he did not suggest that secret commissions and other illegal practices were more prevalent in connexion with the horticultural trades than with others. With due respect to his lordship's opinion, it is greatly to be feared that he is mistaken. The truth is that horticulture as a profession being the most ill-paid of all, professional gardeners are for the most part either whole-souled enthusiasts, such as the one described in our issue of February 18 (page 81), or men of little purpose and sometimes lesser attainments who have not the moral strength to refuse a bribe. They do not, of course, call it a bribe or even permit themselves so to consider it. Indeed, like the politicians who repeat a lie until they themselves believe it truth, after accepting such "presents" a few times these men come to look upon them as lawful emoluments or perquisites. Nor is this all. They begin to consider that they have a grievance against law-abiding firms who refuse to give these commissions, and point out to their employers what they are pleased to consider shortcomings in their seeds, plants or sundries which would not have been "discovered" had the commission been paid.

An Omission.—It is an extraordinary thing that so common-sense a measure as the Secret Commissions Act should have been placed upon the Statute Book at so comparatively late a date. This deplorable thing has become a custom—a custom to which it is difficult to put an end. Many a man who would scorn to sell old seed—or even to mix old seeds with

new to "use them up"—has said with Hamlet, "I am myself indifferent honest, but yet . . ." I do not see why I should stand by and see a good customer filched away—Commissions Act or no Commissions Act." So we get a vicious circle: gardener corrupting tradesman, tradesman corrupting gardener. If some firm is detected and a case made out, it is almost always against one of the firms mentioned who would fain be honest. The blackest sheep of all are as a rule too artful so to be caught napping.

The Remedy.—This notwithstanding, and despite inevitable hardship to individuals—to those, in short, who break that well known business "Commandment" *"Thou shalt not get found out"*—it is vital that the law as it stands should be ruthlessly enforced. It would be an excellent thing if every garden owner were to impress upon his staff, in plain words, the iniquity of the custom and his own resolution to take drastic steps to cope with the evil should any case come to his knowledge. Beyond that, the remedy lies with His Majesty's judges who, remembering that, like blackmail, this is a most insidious crime and a peculiarly difficult one to detect, should administer the law with the utmost severity.

Rubbish Merchants.—While Lord Lambourne is endeavouring to clean out Augean stables, he might well consider whether there is any con-

ceivable way of bringing within reach of the law the "flat-catchers" or "rubbish merchants" who batten on amateur gardeners, especially novices. Bearing in mind that they cannot hope for repeat orders, it seems wonderful how they contrive to make their advertising pay until one remembers that, unlike the legitimate trader, they have not to depend upon a moderate percentage of profit. Gross profits and net profits are, in their case, separated only by the cost of their advertisements. There is little doubt that some of the worst of these frands might be "laid by" for obtaining money by false pretences were it not for the very natural reluctance of their victims to expose their own simplicity. Readers of THE GARDEN will, for the most part, have little idea of the dimensions of the operations carried on by some of these sharks, as their victims naturally belong to the less sophisticated class—to those, in short, who can least afford the loss.

Once Bitten. the would-be gardener is naturally shy of adventuring a second time, so that, apart from the immorality of the business, these cheap-jacks effectually dissuade many thousands of people from the practice of a recreation which is the high road to good appetite, good health, good temper, good taste and good citizenship.

Easy Access to Wisley.—Another point raised at the annual meeting, and one to which the

President promised the consideration of the Council, was the question of the inaccessibility of the Wisley Gardens. It may be that the Council have figures giving, at any rate approximately, the number of visitors per week throughout the year. If so, they may safely allow for a very considerable increase if better facilities are provided. The question will then arise as to whether it would not be possible on certain specified days per week (or per month) to run at a moderate charge charrs-à-banes direct from some accessible part of the Metropolis. This seems the best starting-point, since most non-resident Fellows visit London at least once a year, while for the vast majority the only practicable route of access, unless in their own conveyances, lies through London.



PERHAPS THE MOST BEAUTIFUL OF ENCRUSTED ROCKFOILS, SAXIFRAGA LINGULATA LANTOSCANA, SHOULD NOT BE OMITTED FROM THE SMALLEST ROCK GARDEN.

THE ROADSIDE GARDEN HEDGE

The advantages and disadvantages of different materials. Is a formal hedge as necessary as the aspect of suburban roads would make one believe?

THE first consideration in dealing with the roadside garden is the material to be used for its hedges. Enclosure is necessary, and is, as a rule, provided for in a practical manner by the builder. Unfortunately, the provision so made is frequently chosen on account of the economy of expenditure involved rather than with a view to getting anything in the way of pleasing effect. Where a permanent fence is provided, such as a wall or close paling fence, the consideration of what material to use hardly enters into the question, as a hedge becomes unnecessary. Where, however, the division between the road and the house has to be a live one, it does. This boundary can be of two sorts, either a closely trimmed hedge or, where room and other circumstances permit, a line of evergreen flowering shrubs left to grow as Nature intended them to do. The first is the one usually adopted to-day, not, I think, because it is the best, but, being commonplace, it is the most obvious suggestion. The idea appears to be to plant something that can be trimmed to look as much like a green wall as possible, hence the material employed is restricted to a few shrubs of which Privet, Box, Yew, Holly, and, in favoured districts, Euonymus, form the staple. These can all be trimmed to form quite solid walls, and where the area is very much restricted this is an advantage. It is also argued that where such hedges are kept closely and well cared for it gives a neat and tidy appearance to a road. It does, but at the expense of interesting variety. Its adoption has tended to make every road in every district look exactly

alike. *Euonymus japonicus*, for instance, is a very fine shrub for this purpose and, where it will grow, one of the best. It has a solid, comfortable appearance, gives a rich note of green to a district, and its glossy leaves allow the first shower to wash off the accumulation of dust that is inevitable in these days of motor traffic. But in seaside districts, where it is used almost to the exclusion of everything else, its deadly monotony gets very tiring. As an alternative there is English Yew—perhaps the best of all hedging materials and certainly the most interesting. It can be kept as solid as a wall if desired and has a truly English note. Your lowland hedges, trim lines of massive green,

suggestive of the pleasures of old Elizabethan houses and smooth alleys for aged feet. Being accused of poisoning cattle, its use by the roadside is deprecated, though why cattle should be allowed to feed on a hedge I fail to see. It will last as long as the house does, and is amenable to the most drastic cutting. It is almost plastic in its adaptability for training into curious and grotesque shapes for those who like such things. Personally, I do not like topiary work and consider it a false use of material, but many people do like it not, I think, because of any beauty it possesses, but



AMONG FLOWERING SHRUBS TO FORM AN INFORMAL HEDGE OR SCREEN VIBURNUM PLICATUM MUST TAKE HIGH PLACE.

because it suggests an association with old gardens. Certainly a road bordered with hedges trained into balls, spires, birds, beasts and all the weird and often ridiculous shapes that are adopted would have a ghostly, eerie sort of effect in the moonlight. It might be considered by some people to be attractive on account of its curious absurdity, but it would never appeal to anyone with a love of the beautiful. Holly is a good country hedge, but is unsuitable to the dusty atmosphere of a town. Not only that, but to cut Holly into rigid lines is to destroy its principal beauty, which lies in its natural growth and berries. Trimmed solid, the glory of its winter colour is lost. Box is a very

satisfactory hedge and possesses all the adaptability of Yew so far as trimming is concerned. It is also delightful in its young green, and strikes a colour note unobtainable in anything else. It possesses with Yew the advantage that it is lasting. Privet makes a good hedge for many years, but cannot be considered a really permanent planting. I think the use of coniferous shrubs for trimmed hedges is to be deprecated. I mean, of course, such things as *Thuja*, *Cupressus* and such shrubs, the beauty of which lies in their grace when allowed to grow as Nature intended them to do. They are unsatisfactory in the garden for this purpose because just when they have achieved the solidity so desirable to the hearts of many people they have a habit of dying at the base, and so untidy holes are created just where density is most desirable.

But is it *always* necessary to have these solid blocks of hedges? Is it not often possible to utilise the beautiful evergreen flowering shrubs in such a way that they will form the necessary screen without being carved into solid walls? It means giving a little more room to the hedge line, and this is often an insuperable objection, but wherever space permits I am sure the road could be beautified by a less rigid treatment of its boundary lines. Many houses have in front of them a low wall, railing or fence. Suppose instead of any of the hedging material hitherto mentioned a little extra space were given to the growing of *Berberis Darwinii* mingled with *B. stenophylla* or one of the other beautiful forms. What a glow of orange and yellow such a road would present in the flowering season! Again, in the autumn with the early frost the changing tints of the foliage would light up the scene. Even in winter they are beautiful, especially when the hoar frost sprinkles the leaves and branches with myriads of scintillating gems. Then they berry, too, some orange, some purple, some coral, and many other tones. They can be pruned to keep them within the necessary compass, without losing anything of their natural grace.

Then there are the Escallonias, constituting another family that will in most districts give seclusion without rigidity of outline. *E. macrantha* and *E. Ingrami* are among the best, and they are evergreen, sufficiently dense, and their habit exceedingly graceful. Where it will thrive, too, the hardy *Fuchsia Riccartoni* makes a wonderful effect as a roadside hedge, but the situation must be carefully chosen and it is not evergreen. There are many other shrubs that are equally suitable, but it involves giving not less than 4ft. or more than 6ft. additional space to the boundary hedge. Whether the garden will afford it is a matter for the owner to decide. But with a flowering tree in every front garden and the hedges treated in the way I have suggested the roads of the average suburb would lose much of the uninteresting monotony they now have. GEORGE DILLISTONE.

FORTHCOMING EVENTS.

March 7.—Royal Caledonian Horticultural Society's Meeting.

March 8.—East Anglian Horticultural Society's Meeting.

March 9.—Bristol and District Gardening Association's Meeting.

March 10.—Paisley Florists' Society's Meeting.

ON RAISING PALMS FROM SEED

There is little difficulty and much interest in raising Palms oneself where a modicum of fire heat makes it possible.

THE raising of plants by an unusual method always holds a special interest, and, it must be conceded, that very few of us have made the experiment of sowing seeds of Palms. In the large nurseries that make a speciality of this class of plants it is the usual procedure, and one may see thousands and thousands in every stage of development, from the single blade, like the first sprout from an ear of corn, to small decorative specimens in 5 in. pots and upwards. Some years ago I determined to obtain some seeds and try my hand and was rewarded by obtaining some remarkably vigorous and decorative specimens that, in a couple of seasons, reached a useful size. First—as to procuring seed; the commoner kinds, such as *Chamaerops excelsa*, etc., can be procured by communicating with one of our larger seed houses, but, for a start, a pound of Dates will ensure a good supply that will grow with great certainty.

I sowed my seeds (which by the way included the Dates) in small pots filled with moist sandy peat in April, standing them over the boiler in a house with a temperature of about 55°. The great point is to keep the soil evenly moist, for the seeds are very hard and take a considerable time to germinate, but any excess of water causes them to decay. Two pots that I treated carelessly in this respect and over-watered became a foul smelling mass, but the remainder came through in time. Probably hard solid seeds like the Date stones would be difficult to over-water, but those that are encased in a shell, like a Coconut, must not be kept too wet.

Give a good watering as soon as sown and thereafter only moisten them. At the same time, equal care must be taken that they do not become really dust dry, for peat in this condition is difficult to moisten through without plunging the pots to the rim for some time, and there is a risk that the roots may just have pushed out and perish. Grow them on rapidly, which means in a moist, shaded and rather high temperature, which is more easily obtained by sun heat during the next six months, after which, if they have to be wintered in an ordinary greenhouse temperature, it is best to harden the growth previously made by admitting more air.

The temperate varieties winter easily in a cool house if they are kept in the warmest position. Do not hurry the potting on into larger sizes, but wait until they are well filled with roots and then give a moderate shift only. Drain the pots with one large crock over the hole and, with a blunt-ended stick, ram the fresh peat down quite firm all round the sides. Too loose potting leads to trouble in two ways: First, the new soil round the edge is apt to absorb all the moisture as it is poured on, leaving the centre dry; whereas, if both are equally solid the whole is evenly moistened. Secondly, the roots push downwards with great force and, when loosely potted, the pressure on the bottom of the pot acts as a lever and lifts the young plant upwards, necessitating potting afresh into a larger pot so as to obtain the necessary depth. Do not attempt to press them back into the pots or the sensitive, brittle growing tips of the roots will be injured and the effect seen in browned tips to the

leaves or even by the loss of the plants. Scale must be looked for, as well on seedlings as older plants, and immediately it is noticed the plants

be cleaned by removing the scales with a sharp-pointed stick and afterwards sponging with clean tepid soapy water. H. W. CANNING-WRIGHT.

ROCK GARDENS AND ROCK GARDENS

Further notes and illustrations on desirable attributes of the rock garden.

ARTHIFICIAL, to more or less extent, compared with the happy example of clearing and planting a stretch of the oolite strata on the Cotswolds, it is a question if any "hand-made" rock garden surpasses the extensive and ever extending area devoted to alpines at the Royal Botanic Gardens, Glasnevin, Co. Dublin. This both in its varied but tasteful formation, and in the beauty, interest and comprehensive character of its planting. It is taken as happily illustrating the value as such as an educational factor for all interested in the subject, and is as largely availed of as it is apparently appreciated. Situated as is the Glasnevin rock garden on undulating ground, giving a more than usual diversity of character, a vast number of species and varieties of an alpine and sub-alpine character have their whims and caprices in soil or site admirably catered for, albeit the local climate is far from being the most favoured in the favoured Green Isle.

That the main object of rock gardening at Glasnevin has not been sacrificed to constructional effect, good as it is, is evident in winding walks and negotiable footways intersecting the whole area in a way that facilities are generously afforded for the minute inspection of every detail by interested visitors. Here, too, of course, as an educational factor, correct and legible labelling of everything in an unobtrusive but permanent manner is a *sine qua non*, and the variety of sites afforded by the formation and natural lie of the ground from sunny, high and dry, to shady, cool, and damp of the low level within the umbrageous influences of ancient Yews comprising the historic "Addison's Walk," gives great scope and almost unlimited character. From the base, too it is not a far cry—but a few feet of green turf, in fact—to the equally interesting bog garden all but on the river's "brim" of the again active and picturesque Tolka. One dares not in but a brief outline venture on a list of the flora of this particular example



PHOENIX PARK, DUBLIN, GLACIAL STONES ARRANGED (?) BY WATER-SIDE.

of rock gardening, nor is late winter quite the time for it. Most are happy in their season of quiet; some, such as the New Zealand *Celmisia*s and tiny gems of the encrusted *Saxifraga* section, and others summed up in "miffy," being modestly protected by bits of glass, although near the afore-mentioned

Addison's Walk a rosy-crimson *Rhododendron* carries its New Year's gift of brilliant blossoms.

The very name moraine seems a sort of shibboleth to the maker of modern rock gardens, but, alas! the making of a moraine often means muddle. One may see, as has been seen, such constructed in or about the rockery which, in its outward and visible sign of a bed of rock detritus, is, on the face of it, what is aimed at—no more, being without its birthright horn of the glacier, an undercurrent of water, or at least copious and sustained moisture derived from gravitation. The very word gives the keynote of character, and given that, interpreted rightly,



THE BOG GARDEN AT ST. STEPHEN'S GREEN, DUBLIN.

your true moraine plant, even should it have to seek its heritage 1 ft. or more below the surface, will, as a rule, be all right; failing that recognition of its birthright, as a rule all wrong. But what a fine feature the moraine adds to the rock garden! Here is a happy example in a town garden (Allesbury Road, Dublin) where rock gardening, commenced a few years since, in a very modest way, now threatens to absorb the whole area; for here, of all phases of gardening, *L'appetit vient en mangeant*. There is a pool on the higher level perennially fed by a tiny artificial supply which has its overflow disappearing shortly after leaving it, being conducted by a subterranean channel which forms the bed of a moraine informally bordering a broken-flagged footway, and extending for some distance too. The moraine by nature, as well as name, is worth having.

Truly Nature is liberal in her suggestions and hints for the rock garden maker and planter, ever and anon showing some examples, too, rather to be kept than copied. For instance, Monte Alverno, immediately overlooking Killiney's lovely bay with its superb bits of natural rockwork fringed with acres of *Cineraria maritima*, and *Veronica hybrida* in bloom the winter through, is picturesquely perched on the granite, advantage of which has been taken by the owner to plant a few alpines in the armpits

of a ponderous shoulder at hand. On the summits of that shoulder is one huge boulder estimated by a qualified engineer to weigh 40 tons, and there it has been poised through the ages, since comfortably settled there by glacial migration. It is Nature in her majestic mood. Relative to this it has been questioned whether the glacial-worn boulders promiscuously placed on the "brim" of the lake in the People's Gardens, Phoenix Park, are not *de trop*, if not actually bad taste. Reconciled as relics of the great ice age, they seem to open up a further, albeit far-reaching, phase of the subject well worth consideration by those who can grasp the bigger and broader principles and possibilities, with the prerogative of a ministering hand.

The very atmosphere of Nature's ways should, in permeating our principles, yield better and broader ideas than is too often found in that perfervid desire to keep all cribbed and confined within depauperated lines and petty limits. In a botanical garden representing a comprehensive collection such may be, probably is, in fact, to greater or less extent absolutely unavoidable, but even there the lesson is taught that Nature labors dotting as she does a vacuum, and plants in colonies. Why the unholy desire of for ever digging up and dividing anything and everything exceeding a given space and a limited space, too?

And, more, why the painful endeavour to variegated the whole area by much mixing and meticulous dotting? Such puerile work is not uncommon in the care and keep of even well designed and otherwise carefully planted rock gardens. The



THE ROCK GARDEN AT THE ROYAL BOTANIC GARDENS, GLASNEVIN.

one objection of a professional friend, and good gardener, too, to the alpine garden is the labour involved in keeping all trim, tidy and neat, which is conscientiously carried out to a fault. It is magnificent, but—it is not rock gardening.

Dublin.

K.

A NEGLECTED CULT

The spring planted bulb and tuber.

MOST garden lovers write out in autumn a list of Narcissi and Tulips and, perhaps, Hyacinth and Freesias, which they require to make gay their houses and beds the following spring. The really expert gardener always makes out another bulb order at this season of the year. Naturally it varies somewhat from year to year, but it usually includes several sorts of Lilies, and it may also include Gladioli, Montbretias, Oxalis, Giant French Ranunculuses, *Dierama pulcherrimum* and *Tigridias*. There is still time to procure bulbs of many species of *Lilium*, though they should be got in now without delay, but bulbs of Japanese *Lilium auratum* (which alone are worth growing) have not long been to hand. For outdoor work the robust form, known as *L. a. platyphyllum* is recommendable, though the typical plant is very

beautiful and not difficult to establish in light soil with plenty of humus, preferable among *Rhododendrons*. A similar place, but with not too much overgrowth (owing to its lower stature) will suit the forms of *L. speciosum*, better known in gardens as *L. lancifolium*, of which the form, *magnificum*, and the similar but later flowering *Melpomene* are the most richly coloured forms. *Album Kratzeri* is a beautiful snow-white form with orange anthers. Similar treatment affords the best chance of succeeding with those beautiful Lilies, *sulphureum* and *regale*.

Few plants make a finer show in the border than the autumn-flowering Gladioli. Where brilliant colour and massed display is wanted the old scarlet *breuchleyensis* cannot be beaten, or if a variety of colour be wanted it may be found among Graff's Canadian hybrids, the giant-flowered *Childsii* or the giant English hybrids of which so many have been sent out of late.

Until comparatively recent years, the garden lover who wanted Gladioli but disliked the rather blatant form of the large-flowered hybrids, had to fall back upon the quaintly formed and oddly coloured *Lemoinei* section. Not so to-day! The ever-increasing family of *G. primulinus* hybrids has added, and is adding, an entirely new interest to an old garden flower. With an entirely new range of colouring, with coyly shaped but charming flowers and inimitable grace of deportment, they are spoken and written of enthusiastically by people to whom the older types were anathema.

Those who wish to grow the new hybrid *Montbretias* should now place their order, as these kinds are not sufficiently hardy to withstand our winters outdoors. Whether they are worth the trouble of lifting each winter is for each one to decide for himself. So experienced a "bulbist" as the Rev. J. Jacob thinks they are.

The forms of *Oxalis* usually planted in gardens are *floribunda* (*lasiandra*) and its white variety *alba*, and *Bowieana* (*purpurata*), especially the last named, which has dazzling rose-coloured flowers and handsome foliage.

A generation ago the tuberous *Ranunculus* was a popular garden flower. Fashions change, it is true, but it is a little difficult to understand why these brilliant and once popular garden flowers should have sunk into comparative obscurity. There is still time to plant the Turhan forms, though they always shrivel somewhat if kept out of the ground, and late-planted tubers seldom do so well as those put in earlier. The month of March is the best time to plant the French sorts, however, and these are very beautiful. They may be obtained to colour or mixed. The colours embrace shades of vermilion-scarlet, crimson, rose-pink, orange, buff, yellow and white.

There is still time to plant the tubers of the Wandflower, *Dierama* (*Sparaxis*) *pulcherrimum*. They should be given a sheltered position in light, well-drained soil. The typical purplish rose form is best known, but there is a very deep purple, almost black form, a beautiful pure white one and a pale rose called *Apple Blossom*. The two last, ordinary folk will find the most attractive. The *Tigridia* is another bulbous plant which is not seen in gardens to anything like the extent it should be. Like the *Dierama*, they like a sunny position and a sharply drained soil. They are not hardy, so must be lifted each autumn. It is unwise to plant them outdoors till March, and they should be stored meanwhile in not quite dry sand to prevent their shrinking. Most bulbs are best surrounded with coarse silver sand, but this particularly applies to the *Tigridias*. These are very beautiful and remarkable plants for greenhouse decoration. If the soil is pleasantly moist at potting time, they should need no water until the "grass" shows above ground.

ANNUALS FOR THE GARDEN

Last year's experiences and their utilisation.

FOR many years, I confess, I grew my annuals as I think numbers of lovers of these charming flowers do still, in any odd border and position in the garden. There were, however, just a few exceptions in the case of several kinds that were ranked as summer-bedding plants. I think it was the more careful cultivation of Sweet Peas—coupled with the fact that annuals had improved so very much in recent years—that induced me to grow all the best of my annuals in quarters by themselves, so that their great beauty in mass form could be enjoyed. Even the different varieties of Mignonette have been grown in beds abreast of each other.

The soil must be prepared very carefully, as a too rich rooting medium would cause some kinds, such as the Lavateras and Marigolds, to grow too tall and require staking, which, unless very carefully done, spoils the general appearance of the plants. Godetias do well in a soil of medium richness, Cornflowers in a rather poor soil, and Larkspurs in a moist, rich one. These few examples may be taken as a guide.

Last year my annual Larkspurs, in poor soil, ceased to grow when the dry spell of weather

came. From June till late in September the plants remained at this stage—six inches high. Then rain came, and early in October they had grown to a foot, and by the middle of the month they were 18 ins. high, bearing lovely spikes of flowers, and the flowering continued till frost came.

A grand dry-soil plant will be found in the Cornflower. Side by side with the Larkspurs referred to, I had Cornflowers; the plants reached a height of 16 ins., then commenced to flower and continued to do so till November, ripening seeds freely and producing thousands of seedlings in the meantime. Some of the latter were destroyed by the hoe, but sufficient were left to form a nice bed several feet wide, and these plants are now robust and six inches high.

The Sunflowers had a struggle to live, but with the aid of several good soakings of water all flowered, producing small, but lovely blooms. A naturally damp soil in a hot summer is an ideal place for the Sunflower. Constant hoeing between rows of annuals in hot weather does far more to keep them going than excessive watering.

I am not dealing with Sweet Peas in these notes, as they stand out by themselves and generally claim special attention. The first error made

as a rule, is that the seeds are sown far too thickly. It is much wiser to harden the heart and determine to drop, say, twenty seeds in a given space instead of a hundred. One may learn a valuable lesson when looking at a solitary Parsley plant and note the vigour, size and quality of leaf. The same impression is made when one examines the solitary Mignonette plant and compares it with the attenuated specimens in the overcrowded bed.

Having decided to be wise at last and to sow the seeds judiciously, the beginner or cultivator of limited experience must carefully watch the resultant seedlings and protect them from the ravages of birds and slugs. When growing in masses a few strands of black thread stretched from small sticks six inches above the soil cross-wise, a foot apart, will prevent loss by birds. A fine dusting of soot renders the tiny seedlings distasteful to slugs and, if not used to excess, stimulates the plants. Around the beds put down unslacked lime and lightly fork it in; do not leave it on the surface, as the slugs work their way underneath.

It is essential to success that early and judicious thinning out of the seedlings be done; but



A BORDER OF ANNUALS—CONSPICUOUS ON THE RIGHT HAND THE GROSS FEEDING BUT STATELY ANNUAL LARKSPURS.



FOR SOIL NEITHER TOO RANK NOR TOO POOR, FEW PLANTS ARE MORE EFFECTIVE THAN THE SATINY GODETIAS.

sometimes enemies do this work too completely, so we must neither be in too great a hurry in this matter nor delay the work too long.

The following hardy and half-hardy kinds should be included in the beginner's collection: Aster, Candytuft, Chrysanthemum, Clarkia, Collinsia,

Cornflower, Eschscholtzia, Gypsophila elegans, Larkspur, Lavatera, Malva moschata, Marigold, Mignonette, Night-scented Stock, Salpiglossis, Ten-week Stock, Sunflower, Sweet Rocket, Virginian Stock, Sweet Sultan, Zinnia and Sweet Peas
OLD TIMER.

TORCH LILIES

Some thoughts on one of the stateliest families of plants which adorn our gardens. A warning as to "incompatibility" on the part of some of them.

BECAUSE even the hardiest species and hybrids of *Kniphofia* are on the borderline of hardiness, or, perhaps, it would be more accurate to say, because the climate of Britain, except in the South and West, is barely sunny enough in the average summer or warm enough in the average winter, it is better to delay the planting of these stately and striking flowering plants until the approach of spring.

The most commonly grown of these remarkable Liliaceous plants is still the long known *K. aloides* (Uvaria), of which the variety *maxima*, *nobilis*, or *grandis*, as it is variously called, is perhaps even now the most striking of herbaceous forms. All the forms of *K. aloides* and most of the many hybrids which have of late years been produced by crossing forms of *aloides* with some of the more tender yellow flowered species are valuable for the mixed border, as their shades of citron and coral are not difficult to arrange without clashing.

As much cannot, alas! be said for the semi-succulent, sub-shrubby (caulescent) forms, of which the flowers have a curious brick-red tinge which agrees with little but their own glaucous foliage. They are remarkable, even handsome, none the less, and may be used satisfactorily in shrubbery openings, forming indeed a very satisfying picture in association with the Sea Buckthorn (*Hippophaë rhamnoides*), for instance. They associate well also, with the Pampas Grasses (*Cyperium argenteum*), with *Yuccas* of sorts and with the foliage of the Day Lilies (*Ilomero-callis*). Of these caulescent forms the best known is *K. caulescens*, and this is, as *Kniphofias* go, quite a hardy species; but the much more recently introduced *K. Northii* is, if less hardy, more handsome, as the flower spikes are finer and have less of the brick-red colouring, while the foliage is broader and even more handsome. *K. foliosa* (*Orontium*), though similar in colouring and length of spike, is quite distinct. It is indeed, more *Yucca*-like in habit than either, a trait which is emphasised still more by that remarkable species *T. Tysoni*, which has leaves 3 ft. or more in length and 3 in. or more wide at the base. Early flowering, as all these sub-shrubby species are, its spikes are freely produced, but they have the daring brick-red

colouring to an even greater degree than *K. caulescens*. It will be understood, of course, that the red colouring in these, as in all other



VERY TYPICAL OF THE GLAUCOUS FOLIAGED, SUB-SHRUBBY TYPE IS *KNIPHOFIA CAULESCENS*.

Kniphofias, fades with age, leaving the dying flowers a yellowish shade.

Coming now to the herbaceous forms, properly so called, anyone who is interested in the various species with a view to forming a collection will be well advised to consult a gardening dictionary. To those, however, who are on the look-out for worthy forms the following are recommendable:

Of the red-flowered kinds *aloides* and its giant form have already received mention, and the variety *præcox* is worthy of notice because of its early (May) flowering. It is not a particularly handsome form, however, and its colouring lacks the richness of *nobilis*. The variety *glaucescens* has rather glaucous foliage and better flower spikes than in the typical form, but it has some of the awkward colouring to which reference has already been made. *Kniphofia Burchellii* is a very beautiful early-flowering species. It flowers a little later than *K. aloides præcox*, but is a much finer and more dignified plant with better shaped, better coloured and more gracious flower spikes. The stems which support the spikes have a richly mottled appearance, caused by spots and blotches of purple pigment, which distinctly adds to their effectiveness. Another imposing and valuable species is *K. Tuckii*, which is June flowering. The heads of flower are quite good, but a little overshadowed by the luxuriant foliage. The yellow-flowered forms, *K. K. comosa* and *pauciflora*, are pretty enough, especially for rockwork, but they are much less hardy than those already mentioned, so, unless in favoured spots, are best left alone; but they have been invaluable to the hybridist.

Seeds of "pauciflora hybrids" are sometimes listed. They flower readily the second year from seed and seem almost or quite as hardy as *K. aloides*, while they retain much of the slender grace and yellow coloration of *K. pauciflora*.

Of many beautiful hybrid forms the following are especially worthy: *John Benary*, which, fairly late flowering, is one of the best and stateliest of the deep red sorts; *Obelisk*, which is a stately form, reaching 5 ft. or so, and golden-yellow in colour; *Star of Baden-Baden*, straw yellow, which, in favourable situations, grows taller still; and the hardy and free flowering, if less statuesque, deep yellow *Lachesis*.

For the rock garden the best species is *K. Macowanii* (syn. *marocana*), a pretty miniature with orange-red flowers. It may well be associated with the *pauciflora* hybrids already mentioned. *K. rufa*, another dwarf red form seems too coarse in stem for its diminutive stature. It is, in short, a dwarf rather than a pigmy.

The quite herbaceous forms are increased fairly rapidly by division an operation which should be carried out after flowering but whilst the ground is warm. The caulescent forms are propagated from cuttings which, under glass root readily enough. It may be necessary to behead the plants to make them break.

Snow is a great enemy to the Torch Lilies, as, indeed in our lowlands, it is apt to be to all plants of a more or less rosetted habit of growth. What would be, if it remained, a warm "blanket" to protect from frost, in our changeable climate too often thaws to snow-broth, only to be congealed in the hearts of the plants by a further change of mind on the part of the "Clerk of the Weather." Such damage may largely be guarded against by tying up the leaves to thatch the crown from damage, and placing bracken around the base of the plants to act as a substitute for the tied-up foliage in withstanding wind-frost. Still, with all our precautions, a hard winter following, as such winters generally do, upon a cold, wet summer will always play havoc among Torch Lilies. Such winters have, fortunately, been very rare of late, and the Red-hot Pokers, as country folk often call them, are so gay and debonair, so obviously aristocrats, yet—for the most part—so amiable and such "jolly good fellows," that their dislike for cold will deter very few from cultivating their acquaintance.

CITRANGES IN IRELAND

BY LADY MOORE.

INCLUDED in Messrs. Thos. Rivers and Son's exhibit at the R.H.S. meeting on February 14 were two of the American hybrid Citranges. It may interest your readers to learn the history of these plants in Ireland. In

February, 1909, Professor Swingle, Physiologist in Charge of Plant Life Investigations at the Bureau of Plant Industry, Washington, wrote to the Director at Glasnevin asking if he "would care to try in your garden located in a part of Ireland where the climate is unusually mild in winter some of our new Citranges." In due course the plants arrived. They are hybrids between the Sweet Orange (*Citrus Aurantium* var. *sinensis*) and *Egle sepiaria* (*C. trifoliata*), the wild Orange of China and Japan. There are four distinct varieties of Citranges — the Savage, Morton, Colman and the Rusk, named after botanists in the United States of America. The cross has been made with a view to impart the greater hardi-

ness of *Egle sepiaria* to the Sweet Orange (*C. Aurantium*). The hybrid shows transitions between the unifoliate leaf (if such it be) of the Sweet Orange and the trifoliate leaf of the other species. It is evergreen like the Sweet Orange—*Egle sepiaria* has deciduous leaves. The flowers are large and fleshy, pure white in colour; a lot of the star shape of the flower of *Egle sepiaria* has been eliminated, thus greatly improving the appearance and effect of the flowers. It is very sweet scented.

The accompanying photographs of the Citrange and its parents were taken by Miss E. V. Miller in the Royal Botanic Garden, Glasnevin, in July, 1921, and that of the fruits in December, 1921. The latter are compressed, spherical in shape,

frequently oblique, about 2ins. in height 2ins. in diameter. Some fruits are quite smooth, others have pronounced furrows running from the base to the apex. They vary in colour from light yellow to deep orange. The fruit of the



TYPICAL CITRANGE FRUITS.

variety Colman is covered with numerous short, stiff, colourless hairs. The trees are budded on the hardy Trifoliate Orange stock. The Plant Bureau at Washington kindly sent plants of each variety to the well known Irish gardens of Sir John Ross at Bladensburg, Kesteven, Co. Down; of Captain Lewis Riall at Bray, Kilmacurragh, Co. Wicklow; to Mt. Usher; to Lord Barrymore's garden at Fota, Co. Cork, and to Glounthanne, Queenstown.

Professor Swingle warmly recommends the fruit as delicious eaten with sugar, an opinion not shared by Messrs. Rivers, who describe it as of a very disagreeable flavour; it is also used in Washington as a beverage like lemonade. Those

grown at Glasnevin when tasted were decided to be of more value for decorative than edible purposes. Although the plants have to be grown against a wall at Glasnevin, they are perfectly hardy in the gardens mentioned. Probably the most effective flowering shrub I saw last year was one of these Citranges covered with its large white-sweet-scented flowers in a border in Captain Riall's garden, Old Conna Hill, Bray, Co. Wicklow, in the month of June.

REMEDIES FOR WOOLLY APHIS

Notes on the habits of a dreadful pest and methods of exterminating it.

AMONG the many pests with which fruit growers have to contend in this country probably few are more common and do more damage than woolly aphis. It may be found to some degree in the majority of Apple plantations, but to a far greater extent in those orchards in which the trees are planted closely and especially where little attention is paid to the important tasks of pruning and cleaning the bark. One may often have noticed old trees in cottage gardens appearing quite white with woolly aphis.

Much may be done to remedy this by summer spraying with such as nicotine and soft soap or a diluted paraffin emulsion, but great care must be taken thoroughly to wet the affected parts, or it will prove to be work in vain.

Probably the most effective method is that of thoroughly washing the trees during the winter with one of the well known Woburn washes, though a solution of 2½lb. of caustic soda to 10 gallons of water will prove to be very effective in destroying the pest.

Much may in this way be done towards keeping the trees free from woolly aphis, but it does not appear to be generally realised that this pest not only attacks the tree above ground, but also the roots. It is highly probable also that a migration takes place from above to below as the winter draws on, and a return migration in the spring. This may be proved quite easily by grease-banding the trees, large numbers of the aphides being seen around the grease band as they ascend the trunk of the tree in spring. Thus much labour may be carried on above ground and be to a great extent wasted if the aphis is allowed to work havoc among the roots.

There is nothing so effective as carbon bisulphide for freeing the roots of affected trees. It should be injected into the soil to a depth of 6ins. by means of a special injector, in for each tree about four places, each about 2ft. from the trunk, using 1oz. of the fluid for each injection in the case of tree-sized trees. Care should be taken that the fluid does not come into actual contact with a root, or harm will be done; the vapour, however, is quite harmless to the roots. When using carbon bisulphide great care must be taken to keep it away from fire, as it is highly inflammable, as well as poisonous. The operation should be performed during the early part of the year, at a time when the soil is comparatively dry, but never after April.

All varieties of Apple trees are more or less liable to be attacked by American blight, as this pest is often called, but those varieties which have a soft bark usually suffer most. Such varieties as Ribston Pippin, Blenheim Orange, Cox's Orange Pippin and Lord Suffield seem to offer least resistance to it, and consequently suffer very badly from its attacks.



SHOWS, AT EITHER END, SPRAYS OF THE TWO PARENTS AND, IN BETWEEN, A FLOWERING PIECE OF ONE OF THE CITRANGES.

Woolly aphid will attack any part of the tree—its roots, trunk, branches, fruit and, in exceptional attacks, the leaves also become affected. The fact that it may persist below ground is a

very important one, for any amount of time and energy may be spent in cleaning and freeing the tree from these insects—all to small advantage if they are "carrying on" below. A. J. POPE.

PEACH AND NECTARINE TREES IN SPRING

To be successful with these fruits the cultivator must watch over the trees very carefully all the year round. At the present time, however, and throughout the spring months, extra care is needed to ensure a full crop of luscious fruits.

WHAT may be termed the amateurs' trees, those that are grown under glass but not forced with strong fire-heat, are now swelling their fruit and growth buds, and the inexperienced cultivator will be anxious to give them the right treatment.

The soil must not be allowed to get dry, and, if not already done, some good, half-rotted, organic farmyard manure should be spread 3 ins. deep on the surface of the soil to cover the main roots. All shoots should, of course, be tied neatly to the wires.

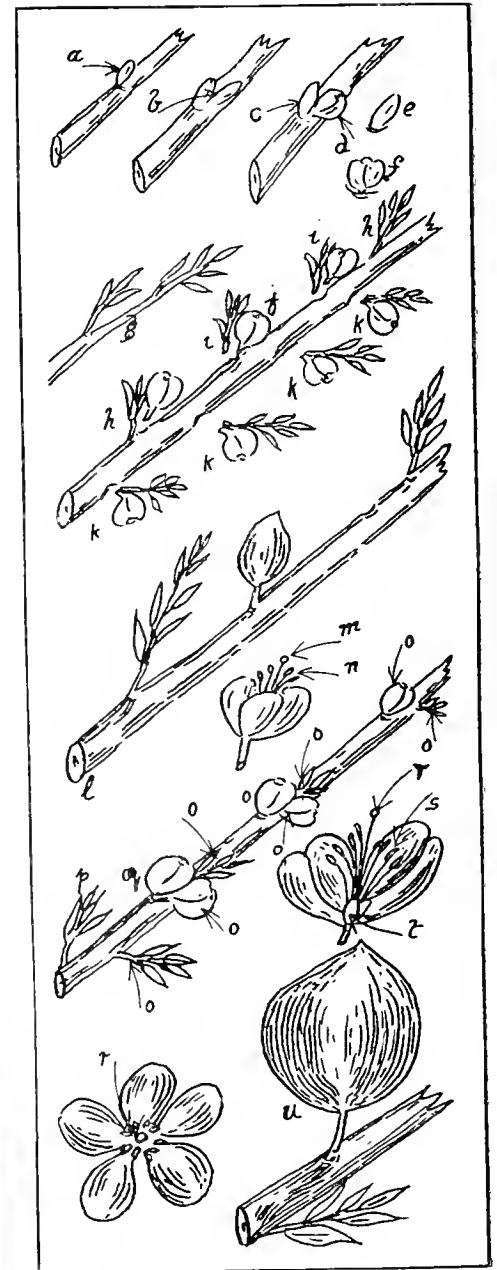
If there are any insect pests, such as scale, left on the trees watch for them every morning and kill them, as, if only a few survive, the trees will be overrun with them by mid-summer, to the disfigurement of the fruits and leaves.

Except in really bad weather, the top ventilators should be opened a few inches early every morning and closed again one hour before sunset; but during the time that the trees are in flower a drier and more buoyant atmosphere must be maintained and a little air admitted throughout the night, too. Twice each day shake the branches to ensure a good "set" of fruits, and also make use of a rabbit's tail or a camel-hair brush.

Very much depends upon the treatment of the shoots and young fruits. In the accompanying sketches *a* shows a single wood bud, *b* double wood buds, *c* and *d* wood and flower buds

respectively; the wood bud is pointed, as shown at *c*, and the flower bud round, as shown at *f*; *g* represents a leading shoot which ought to be retained beyond a fruit on each branch. A young basal shoot and a leading one are shown at *h, h*; *i, i* shoots to be removed; *j* the only fruit-flower to be retained; *k, k, k, k* shoots and young fruits to be removed. The branch *l* shows a later stage of growth, namely, the basal and leading shoots with the young fruit growing freely. At *m* is seen the pistil (embryo fruit), and at *n* the pollen-bearing anthers.

Many branches show young shoots growing between double flower buds. At an early stage of development, where such flowers and shoots are overcrowded, it would help the "setting" process if all shoots and flowers, as marked *o, o, o, o, o, o, o, o*, be removed, leaving a basal shoot *p*, and one fruit *q*, on it with a leading shoot higher up the branch on its upper side. The letters *r, r* show the pistils, surrounded by the pollen-bearing anthers *s*. At *t* the embryo fruit is shown attached to the pistil, and when impregnation is complete through keeping a rather dry atmosphere and good distribution of pollen, the embryo fruit quickly commences to swell. The letter *u* shows the fruit approaching the "stouing" stage after due thinning-out has been done. The fruits when about 1 in. in diameter stop swelling freely for about twenty days; this is the stage when the stones are hardening, and it is advisable to maintain a fairly even temperature, to avoid



THINNING THE PEACH.

any forcing and to apply clear water only to the borders. GEORGE GARNER.

AN ASIATIC CLEMATIS

THE Clematis Farrer 559 exhibited by Mr. A. C. T. Woodward, of Arley Castle, Salop, at the last meeting of the Royal Horticultural Society, is *Clematis macropetala*, Ledebour. The type specimens were collected in Siberia, but apparently we are indebted to the late Mr. Reginald Farrer for its introduction to our gardens. He collected seeds in Kansu, China during 1914, the numbers being F. 315 and F. 559. Mr. Farrer's original description reads, "An Atragene with lilac sepals and a full centre of many white petaloid segments; is a charming thing when scrambling over a rough shrub." It is a deciduous slender climber with biternate leaves, flowering outside during July and August. This is, at any rate, the time it flowered in the open at Kew both in 1920 and 1921. Its nearest ally among well known cultivated species is *C. alpina*. A. O.



CLEMATIS MACROPETALA, WHICH WAS SENT BY THE LATE REGINALD FARRER, FROM KANSU, CHINA UNDER THE NUMBERS F. 315 AND F. 559.

CORRESPONDENCE

THE FORMS OF IRIS UNGUICULARIS.

FLOWERS of what we have at Glasnevin as *Iris unguicularis speciosa* from Dammann of Naples were sent to Mr. Dykes, who, having examined them for swellings or bosses round the top of the tube at the base of the segments, writes: "Your *speciosa* is, I feel sure, not what I know under that name, but an Algerian form. With regard to the name '*speciosa*,' my difficulty is that I do not know that it has any real authority at all. However, I will try and look up this point and see who first described it."

I. u. Imperatrice Elizabetha Mr. Dykes thinks is a Balkan form.

I also sent blooms to Mr. Bowles, who writes: "I feel pretty certain Dammann must have labelled *I. u. lilacina* as *speciosa*. It is certainly my variety *lilacina*. It was, I believe, from Dammann I got mine, so he must have mixed labels in sending it to Glasnevin."

Of *Elizabetha* he writes: "It is evidently a colour form of my *I. angustifolia*, but has more white towards the tip of the fall; it is a very pretty form."

Thus the great authorities! To both of them I am very grateful for their interest and help, but I cannot agree with Mr. Bowles in his slighting dismissal of *Elizabetha*, and I obstinately hold she is distinct in shape, colour of bloom and leaves from *angustifolia*.

To all those readers of *THE GARDEN* who have written me about these Irises, and to whom Sir Frederick Moore has sent bits labelled as we have grown them, I ask that they will watch for Mr. Dykes' naming of our so-called *speciosa*, so that the error may not spread.—W. PHYLLIS MOORE.

HACKNEYED QUOTATIONS.

WILL you suffer a word on a matter which is not gardening, but affects all readers of the gardening Press? I read (or skim) most of the British weekly and four American horticultural papers, and there are certain hackneyed quotations from the poets respecting flowers and gardens which I must have met with about once a fortnight for the last thirty years. Even the noblest sentiment, however expressed, becomes wearisome under such repetition. Wordsworth on Daffodils and "the primrose by a river's brim"—but I need not multiply examples, they will suggest themselves to the most casual reader. Could you not suggest a self-denying ordinance to your correspondents, by which they should bind themselves to omit all reference to a stated list of quotations, for, say, twenty-five years? After this lapse there would be a new generation of readers to which these "chestnuts" would probably come with an air of delightful freshness. You might even go one better, and if Editors have a "Trades Union," put the suggestion on the next agenda and bring the whole journalistic world into line. Do this and "your petitioner will ever pray," etc.—CHARLES E. PEARSON, F.L.S.

[The Editor very gladly seconds Mr. Pearson's appeal. It is often impossible to delete these hackneyed, if beautiful, passages without sacrificing the line of thought of the writer. Will contributors therefore note the objection? There are many beautiful passages, even in the classics, which will not be found in a dictionary of quotations.—Ed.]

A ROSE BY ANY OTHER NAME!

THE so-called Water Violet (*Hottonia palustris*) is a truly beautiful native plant, totally absent or rare in some parts of the country, but common in other districts where, perhaps, conditions are

more suited to its growth. Its common name of the Water Violet is pleasing enough as a name, but, as it is in no way descriptive, the plant might more justly be known by one of its other names, either Bog Featherfoil or Water Milfoil, both of which give a correct idea of the leaves. It has, strangely, been called *Viola aquatica*, and Water Violet is probably a translation, for Dr. Prior in his "Popular Names of British Plants,"

gives no explanation of its origin. By any name, however, it is just as beautiful, and nothing could be more charming than a mass of it in flower, as, for instance, in a slow-running stream. The illustration is from a photograph taken of it growing in the artificial stream that flows by the Botanic Garden at Cambridge, where for a long distance it has taken possession in spite of the cleaning out. The leaves are all submerged, pectinate and in fine divisions, as commonly found in water plants; the inflorescences rising out of the water remind one strongly of an Eastern, tier upon tier *Primula*. Indeed, from this aerial habit it may be surmised that the plant has evolved from a land ancestor. It has some botanical similarities to *Primula*, though still quite distinct. The cultivation of *Hottonia* cannot be difficult, though there may be some difficulty in successful transplantation. It must have mud to grow in and it appears to like slow-running water. The illustration shows the shoots of Mare's-tail rising above the water and Duckweed floating upon it.—R. I. L.

THE CATTLEYAS AND ALLIED GENERA.

ALL who are interested in Orchids must have welcomed the article on page 43 under this heading. There is no doubt that if only the cost of fuel would drop to make it a reasonable price, warm house plants generally would once more become popular. But this important item where glass is concerned does not affect the cost of the cultivation of such Mexican *Laelias* as *L. autumnalis*, *L. anceps* and the various forms of both, which your contributor does not allude to, in the same degree as all those he names, since they succeed better under conditions which are several degrees cooler than what is considered proper for *Cattleyas* and their hybrids. Moreover, I find these Mexican species quite as easy to deal with as any other, and, if anything, more useful. My reason for saying this is that they are in bloom in December and January when, excepting for *Calanthes* and winter-flowering *Dendrobiums*, long stemmed Orchid flowers are rather scarce, while they are as beautiful as any in cultivation. The individual flowers, several of which appear on each spike, the length of which is seldom under 2ft., measure 4ins across; the sepals and petals are rosy—like the colour which has made *Cattleyas* famous, while the tongue-like lip is purple, the throat yellow. Little imagination is necessary to realise how welcome such flowers are

for table-decoration. In fact, those responsible for this matter find them easier to arrange lightly than *Cattleyas*, owing to the shortness of the stems of the latter. There are also some pure white forms, which flower a little later than the coloured ones. These are now at their best and are highly thought of. The cultural remarks in the article referred to apply to these *Laelias*, with this exception. They do best grown in shallow pans at the lighter end of an intermediate house. I grow them in this position in the same house as winter-flowering



THE SO-CALLED WATER VIOLET.

Cypripediums, as I am perhaps fortunate in having a batch of *Cymbidiums*, which acts as a kind of a division to prevent the sun from reaching the *Cypripediums*. Over the *Laelias* the blinds are only drawn to prevent scorching of the leaves. It is remarkable the amount of sun heat these plants can bear providing the roots are kept saturated while active growth is in progress. In fact, flowering in my experience depends upon the plants ripening their growths in the full light. If anyone cares to make the experiment they can grow the plants in shade and they will succeed in obtaining wonderful pseudo-bulls, but they will, if not in the first year, eventually lose the flowering habit, and it will require considerable skill on the part of the grower for them to regain it.—ORCHIDIST.

PRUNING A YOUNG APRICOT.

REPLYING to your correspondent, may I first say that his tree is no longer a maiden, but, apparently, trained for a fan-shaped tree? A maiden tree has but one shoot, and that an upright one, the growth of the graft on the bud inserted the previous spring or summer. A properly fan-trained tree should *not* have a *centre* or *leading* shoot, and I will show how this may be obviated in the case of your correspondent's tree. The centre shoot of the tree in question is 3½ft. long, and it is suggested to cut it back to half its length. The length of the cut-back shoot will then be 21ins. This in my opinion, is too long. By leaving it this length a break of young shoots could not possibly be secured the following spring at the base of the cut shoot, with the result that

the base of the shoot for possibly 1ft. in length would be left permanently bare of foliage and of flower-buds—a serious fault in a trained tree. I should cut this centre shoot to within 1ft. of its base, cutting to a bud on the outside of the shoot and afterwards encouraging the same bud to grow outwards instead of upright in order that it may form a side shoot rather than a central one. On the opposite side of the shoot I should encourage another of the buds to grow into a second side shoot, say, 6ins. below the top of the shoot, both the shoots to be encouraged to grow to their full length during summer and autumn. It is these shoots which go to furnish the main branches of the trees. Your correspondent will find that most of the other buds remaining on the cut shoot will break into growth and form shoots. We do not want too many of these. Four will suffice, two below the lower shoot and two between it and the higher shoot at the top. Select the four strongest and rub off those remaining. The four buds remaining should have their centres pinched off as soon as they have attained a length of 5ins. to prevent their growing any higher. The same short shoots at winter pruning should be cut back to within two buds of their base in order that they may form groups of fruit-spurs throughout the length of the stems of the main branches. So much for the centre shoot of your correspondent's tree.

Of the side shoots there are two on one side of the tree and one only on the other, each about 2ft. long. The tree will become lop-sided if the balance is not soon adjusted. To bring this about I suggest that each of the three branches be cut back to within 6ins. of their base, not shortened by one-third their length, as suggested by your correspondent, and, further, that two new shoots be taken in spring from the single shoot, one from the top bud and one from a bud at the side 5ins. lower down, and further that one shoot only be taken from each of the two shoots (these, of course, from the top buds). Doing this by the autumn will bring about the right balance of shoots. Other buds which will break into shoots in spring at the base of the cut-back shoots must be reduced to four by rubbing off those not wanted, and the centres of those remaining be pinched off as soon as they are 5ins. high to prevent their growing higher and at winter pruning be cut back to two buds of their base as advised in the case of the centre shoot. These technicalities of pruning are difficult to make plain to a beginner. I hope, however, they may help your correspondent over his difficulty.—OWEN THOMAS, V.M.H.

A NATIONAL DAFFODIL SOCIETY?

I APOLOGISE to "Somers" and to all concerned. He was right and I was wrong in my entire under-estimate of the crowd the proposed Society will at once "rope in." He limits the officials of the National Daisy Society to 130. There is every reasonable hope that this moderate number will at once be reached or exceeded by the National Daffodil Society. One of the prime movers in the matter told me that, as a beginning of necessary machinery, its committee would be formed by an amalgamation of the existing committees of the R.H.S. and the Midland Society, *with additions*. These two bodies already number 82, and the 130 is, therefore, well in sight. I would suggest that, as new clubs enrol their first members without entrance fee, so the new society should be popularised by putting the first 100 members on the committee. A wise man once said to me that the best committee is one of two members with one absent, but then he was quite an old-fashioned person. Of course, I was immensely flattered by having a leader, so to speak, of THE GARDEN all to myself (January 28). But I assure the Editor

that I am by no means alone in my criticism of the scheme. There are people who write to the papers and also people who do not. And, after all, I have done no more than humbly suggest that it may possibly be a waste of time and energy to make a loud and probably expensive to-do in order to obtain, under a new name, what we apparently have already. My own belief is—and I have advanced some reasons—that this cult of the Daffodil is an intimate and highly specialised study which will never be popular, with or without brass bands, as Messrs. Jacob and Co. reckon popularity. But Heaven forbid that I should sit longer on their safety-valves; I am old and detest explosions.—G. H. ENGLEHEART.

I HAVE been a reader of THE GARDEN for many years, but am getting tired of the continual dragging of coat tails by writers, who appear to consider themselves and their especial fads the only matter of consequence to gardeners. Lately someone called the Daffodil the "National Flower of Wales." I thought that was the Leek! I beg to suggest an International Onion Society, which should encourage the growth of all classes of that succulent from the lovely flowering Alliums to the toothsome pickled Onion and the fragrant Chives and Chibbles or Spring Violets.—ORIUM.

THE PERSIAN CYCLAMEN AS A WILDING.

THE bulb of this Cyclamen was brought home in a small tobacco tin to Hampshire by an officer. The day he started on his return home for leave in March, 1917, he dug it up close to the



NOT INFERIOR IN GRACE TO THE BEST STRAINS IN COMMERCE TO-DAY!

line then held by the British Army from Jerusalem to Jafia, across the Judean Hills, near Hadattia. It bears this year twenty-six blossoms at one time.—E. M. B.

POTATO NOMENCLATURE.

I THINK it is time that someone who knows the "ins and outs" of Potato nomenclature should state plainly the position to-day of varieties like Midlothian Early and Duke of York, and as the matter has been raised in your columns by H. Saunders, I send you a few lines which you can put in your "W.P.B." if anyone who knows better sends along a contribution on the subject. Duke of York was raised by William Sim and

sent out by Daniels Brothers in 1891. Midlothian Early was raised by G. M. Taylor and sent out by Scarlett in 1905, and by Dobbie, who bought the half of Scarlett's stock, in 1906. It was claimed by the raiser, and also by Scarlett and Dobbie, that it was an improvement on Duke of York. Mr., now Sir Matthew Wallace, Bart., grew it at Terreglestown, Dumfries, among his 195 acres of early Potatoes in 1906, and it was reported in *The North British Agriculturist* that "there was no difficulty in detecting the difference, the Midlothian Early being decidedly nicer in shape of tuber and heavier in the yield." The position then was that there was a difference; it may only have been the difference which is nearly always associated with a true seedling of similar character to its parent. The intervening years and the handling of the varieties by hundreds of growers and merchants who saw no difference between the two varieties, and whose interest it very often was not to look for one, resulted in their getting inextricably mixed, and the only possible thing to do to-day is to bracket them as synonyms, and, in addition, The Faithful and New Success can be added to the group of York synonyms. Exactly the same thing has taken place in other groups. Synonyms of Abundance and Up-to-Date exist in great numbers. They may all have been true seedlings at the beginning, but to-day they are sold for one another quite freely for the same reasons that I have stated in connexion with Yorks and Midlothians. In your footnote to Mr. Saunders' letter you say "there must be more strains than one of the variety." I put it another way—there are more areas than one in which the variety is grown for seed. *Verb sap*.—W. CUTHBERTSON.

I WONDER if you would care to give, or to elicit through the correspondence columns of your informative and entertaining paper, the truth, the whole truth, and nothing but the truth, concerning Duke of York and Midlothian Early Potatoes? Are these two separate and distinct varieties or is the Duke (improved, perhaps) masquerading under a Scots title? Some time ago I grew Duke of York. His Highness yielded a fair crop of medium-sized tubers. He was not sufficiently disappointing to adorn the garden black list, nor good enough to form the subject-matter of a letter home to mother. Last year I plunged with Midlothian Early. The results were an abundance of unusually large, delicious Potatoes, minus chats. Of the two varieties, in my experience, Midlothian Early of 1921 was a Prince of Potatoes compared to Duke of York, say of 1915. The real dilemma is this: One great firm of seedsmen flatly and dogmatically states that Duke of York and Midlothian Early are synonymous; another great firm will accept your money for either or both sorts; a third firm offers one variety only; and a fourth the other variety only. Can you tell me, please—are the two sorts one and the same stock, or not?—A. C. MARSHALL.

THE POMEGRANATE.

MR. AVRAY TIPPING'S interesting note in THE GARDEN of February 11, page 65, brings to memory that many years ago I saw the Pomegranate blooming beautifully on the wall of Swyncombe House, in Oxfordshire; the brilliant scarlet flowers made a striking display. The peculiarly bright colour, where there is a profusion of bloom, is quite arresting; but though I was privileged for twenty years to visit occasionally these beautiful gardens, so finely kept by my old friend John Daniells, I never remember seeing the Pomegranate make much of a show again; possibly the summer when it flowered so well may have been a very hot one.—J. P., *Cheltenham*.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Onions.—Provided the ground is in good working order the sooner seed is got in the better. Select for this crop land which has been thoroughly well done, and endeavour by treading and raking to bring the soil to a fine tilth for receiving the seed. If a dressing of wood-ash and soot can be arranged for so much the better. The drills should be about 15 ins. apart, and, after the seed has been lightly covered, firm and finally rake lightly over.

Tomatoes.—A sufficient amount of seed should now be sown to provide the main summer fruiting batch for both inside and outside. Allow the seed to germinate in a temperature of about 61° and endeavour to grow the young plants at all times in a light position. There are so many "best" varieties on the market that the most practical solution of what to grow is, grow just those varieties which give good results, whether old or new.

Early Marrows.—With improved varieties to choose from of recent years early Marrows are becoming increasingly popular, and they are most certainly a valuable addition to the kitchen list. Where a heated pit can be spared or a hot-bed arranged with frames upon it, little difficulty will be experienced in obtaining a few early fruits. A fairly rich soil is advisable, but the growth should not be made in excessive heat and moisture. Sow the seeds singly in 6-in. sized pots and then pot on again if their permanent position is not ready, so as to avoid a check.

Seeds.—It is not necessary yet to make large sowings of the Brassica family, but care should be taken that a sufficient supply of early Cauliflowers, Brussels Sprouts, Cabbage, Lettuce and the early autumn Broccoli plants are all thought of. The young plants of Cauliflowers, etc., already pricked out or awaiting treatment should be carefully aired and watered, the aim being sturdy, well rooted stock which when planted out will grow away freely.

The Flower Garden.

Open Spaces. which are admirably adapted for the sowing of annuals, often present themselves in the woodland garden or in the lesser dressed portions of the grounds and fronts of shrubberies. As it will soon be a suitable time to sow the seed, the ground should be prepared in readiness. There are quite a number of annuals which will give a fine display in such positions. To mention a few worthy of note we have the annual Poppies, Lupins, Larkspurs, Clarkias and Sweet Sulphurs. Where it can be arranged for bold drifts of Poppies or Lupins to have a background of some sort the effect is better.

Tuberous Begonias required for the summer bedding must be started now in gentle heat. Where a slightly heated pit, with movable lights, can be given up to them it may be so arranged that no further trouble as to another move will be necessary, as when the plants and the weather merit it the lights can be taken off. A light compost is the best for starting the plants in, and this can be placed from 5 ins. to 8 ins. in depth upon a firm ash bottom, spacing the bulbs out according to size from 6 ins. to 12 ins. apart. An occasional light syringing will be found beneficial in encouraging growth in its early stages.

The Hardy Fruit Garden.

Outdoor Figs.—Any winter protection which has been given these trees may now be removed and the necessary pruning carried out. Select strong, well ripened shoots for laying in, and unless it is necessary to shorten them to fit into their allotted places do not cut them back. Do not leave the branches too closely together, as it is particularly essential that the sun and air have a free access to this fruit. A few well placed growths should annually be encouraged from the base of the tree.

Fruit Under Glass.

Early Figs.—Where these are obtained from pot or tub-grown plants it is essential that the stopping of the young growths is thought of in time. From three to six leaves is ample growth for the first pinch to take place. It may be necessary, in dealing with plant-out trees, to allow more freedom growths required for extension.

H. TURNER.

(Gardener to the Duke of Northumberland),
Albany Park Gardens, Guildford

FOR NORTHERN GARDENS.

The Kitchen Garden.

Parsnips.—Sow seed of these profitable and nutritious roots now. Choose a day when the ground is dry and in good workable condition. Parsnips revel in a soil that has been deeply dug during the autumn months and thrown up roughly to be benefited by the mellowing influence of wind and weather. Irregularly manured ground tends towards coarseness and forking of the roots. Prepare a fine seed-bed and sow in shallow drills 18 ins. apart. Immediately the plants are visible run the hoe through between the lines. This not only keeps down weeds, but aerates the soil and ensures that vigorous growth so essential to plant life during the seedling stage.

Brassicæ.—Seed of Savoys, Cauliflowers, Curly Kale and mancrop Cabbage should now be sown for general planting. Sow on a light sunny border, in drills 1 ft. apart. A further sowing of Brussels Sprouts should also be made to supplement those that are being grown in frames. Protect the seed-bed from the depredations of birds by netting.

Peas.—Make a further sowing of early sorts in rows 5 ft. apart. This allows for another sowing of early round Spinach being made between the rows.

French Beans.—As the days lengthen, this ever-popular vegetable becomes easier to force and crops more heavily. If beds are not available, then in forcing pits; the seed should be sown in sun pots. Use a mixture of light loam and leaf-mould, and allow about five plants to the pot. A sowing may also with advantage be made along the front of Tomato boxes, and in this way a good catch crop may be obtained without detriment to the Tomatoes.

Horseradish.—Unfortunately, in many gardens this is a neglected plant, but where choice sticks are in demand opportunity should now be taken to replant the bed. Lift every particle of root before replanting and dig in a generous quantity of well decayed manure. When replanting, select straight sets of medium size and about 10 ins. in length, with crown on top. Divest these of all side roots and dibble into holes about 12 ins. deep. Place a quantity of the old roots in the reserve border for immediate use.

Onion Sets.—Plant these in rows 12 ins. apart and 6 ins. apart in the rows. Scatter wood-ash or burnt refuse on the surface and rake in when preparing the ground. Good-sized bulbs may be raised from sets in gardens where failure results from ordinary sowing.

Fruit Under Glass.

Vines.—In establishments with only an early and a lateinery the latter should now be closed down and allowed to start without undue forcing. Spray the rods over during the afternoon and damp the paths and border surface.

The Orchard House.—Maintain an even temperature in this structure, keeping a watchful eye on pots of Peaches or Nectarines that may be in flower. Assist the setting of these by hand fertilisation.

The Flower Garden.

Lobelia fulgens.—Roots of this effective Lobelia which have been wintered in frost-proof quarters should now be divided and placed in a warm pit for a period until established, when they may be transferred to a cold frame until required for planting in the open.

Salvia patens.—Tubers of this exquisite Salvia should now be started into growth. Dibble the tubers into boxes containing a compost of loam, leaf-mould and sand, placing the boxes in the genial warmth of ainery or hot-bed.

Geum Mrs. Bradshaw.—Sow seed of this delightful perennial now and so obtain well grown plants for filling beds or replenishing groups in the herbaceous border during the autumn months. Sow in a well drained seed-pan and germinate in a warm greenhouse, pricking out in a cool frame when the seedlings attain reasonable size.

Pruning Buddleias.—Prune Buddleias of the variabilis type back to within a few buds of the old wood. B. Colvillei, also a rampant grower, flowers better if not too severely cut back; while B. globosa may be kept trim by having the more straggling growths cut away.

JAMES McGRAN.

(Gardener to Sir Henry H. Houldsworth, Bart.)
Goodham, Kilmarnock

CONSERVATORY AND GREENHOUSE.

Ventilation.—As the sun increases in strength more ventilation will be required in plant houses, and at this time great care is necessary, as bright, hot spells accompanied with cold winds are frequent, and much harm may result from a careless and unintelligent use of the ventilators. Air should always be admitted on the sheltered side of houses, and every possible care should be taken to avoid draughts, for they are much more harmful to plants than a low temperature. Every plant house should be fitted with bottom ventilators opposite or slightly below the level of the hot-water pipes, the cold air passing over the pipes gets slightly warmed as it enters the house. Except in very severe weather, a little air should always be left on the bottom ventilators. Conserve all possible sun-heat by shutting up houses as soon as possible. By this means a material saving in fuel may be effected.

Clivias are very useful for greenhouse decoration, and may be successfully cultivated with very little heat. They may be had in flower over a fairly long period if a considerable number of plants are grown, as flowering may be hastened if successive batches from a cool house are introduced into a slightly higher temperature. As the plants pass out of flower such as require it should be repotted. Before being repotted the plants should have all the soil washed off their roots, at the same time carefully removing all decayed roots, etc. When the plants are dry, pot into suitable-sized pots. This requires great care, as it is no easy matter to work the soil in among their thong-like roots. After potting stand the plants in a house with a temperature of about 50° to 55°. At this stage they should be given very little water until they make fresh roots, and heavy syringing should be avoided, as the strap-shaped leaves carry too much water into the pots, thus making the soil too wet and probably sour before the new roots become active. When the plants are well rooted and in full growth they enjoy abundant supplies of water at the root.

Begonias of the Lorraine type should now be giving plenty of suitable cuttings. The cuttings should, of course, proceed from the base of the plant. Stem cuttings never make good plants. Some growers contend that the best plants are produced from leaf cuttings. Personally, I have never found any difference when proper cuttings were used, and cuttings have the advantage of being much faster. When stock is scarce leaves may, of course, be used with advantage. Begonia socotrana, one of the parents of Begonia Gloire de Lorraine, should be more generally grown. It forms peculiar resting buds, and towards the end of this month or beginning of April is time enough to start it in a warm house. This Begonia is also the parent of the beautiful race of winter-flowering Begonias raised by Messrs. J. Veitch and Sons. As regards their propagation and cultivation, I hope to deal with them at the proper season. In the meantime stock plants of them require careful management. Very little water should be given at the root; on the other hand, they should not be dried off too much. Begonia nite, or so-called "rust," is a great pest, and to many other plants besides Begonias. It, however, can easily be totally prevented or held in check by using Campbell's Sulphur Vaporiser. A few applications in the course of the season is a sure preventive.

Boronias are old favourite greenhouse plants, but at present are seldom cultivated except by a few growers for market work. Boronia megastema with its delicious fragrance is a great favourite and has been in flower for some weeks now. This plant, in common with many other sweet-scented plants, has a very sober dress, the outside of the petals being purple brown, the inside yellow. There are only two other species commonly cultivated, one is Boronia elatior, with rosy carnation flowers, and the other B. heterophylla, with rosy red flowers. Both the last-named species flower about April. They are all natives of Australia, and are propagated as most hard-wooded greenhouse plants are, by short twiggy shoots inserted in pots of sandy peat. The pots should be covered with bell glasses and stood in a house with a temperature of some 55°. Plants that have finished flowering should be cut back and stood in a house in a temperature of 55°, where they can be kept close and moist until they start into growth. They may then be potted on or left until they have just finished their growth.

J. COULTS

Royal Botanic Gardens, Kew

OBITUARY

SAMUEL TISDALE.

ANOTHER link with the past is removed by the loss of Samuel Tisdale, who died on February 14 in his eighty-ninth year. He started his career as Rose propagator with the firm of Messrs. Richard Smith and Sons of Worcester. He afterwards entered the service of Messrs. Barr and Sugden (now Messrs. Barr and Sons) as manager of their nursery, Garrett Lane, Tooting, where the firm's famous collection of Daffodils was grown and where they conducted their seed trials, and remained with the firm some twenty-five years, retiring in 1907, when Messrs. Barr and Sons were establishing their nursery at Surbiton. He then went to live with his son-in-law at Bryanston Square, assisting him in his florist business. Samuel Tisdale was always a very active and intelligent gardener, and was closely associated with the cultivation of the famous collections of new seedling Daffodils raised by Edward Leeds and William Backhouse, which were acquired by the late Mr. Peter Barr. He was a well known figure at the old flower shows of the R.H.S. held at South Kensington, when Messrs. Barr were exhibiting their new Daffodils in Day and Martin's blacking bottles.

Strange to say, he was buried on Saturday, the 18th ult., at Streatham Cemetery, which occupies the site of Barr's old nursery, where for so many years he was cultivator of the many plants which were grown there.

Royal Horticultural Society's Examinations.—Prospective candidates are reminded that entries for the examinations for the National Diploma in Horticulture close on March 4. The dates of the examinations which are for members of the gardening profession only are: Preliminary and Final written examinations, Saturday, May 27. Practical examinations at the R.H.S. Gardens, Wisley: Preliminary, June 27 and 28; Final, June 29 and 30. For syllabuses and entry forms apply to the Secretary, Royal Horticultural Society, Vincent Square, Westminster.

Charity Concert.—On February 16 the twenty-third annual concert organised by Geo. Monro, Limited, in aid of various charities, was held at the Queen's Hall. An excellent programme was provided, which included an organ recital and some excellent music rendered by the band of H.M. Grenadier Guards. Last year the Committee made the following grants to charities: £10 10s. to the Gardeners' Royal Benevolent Institution, £3 3s. to the Royal Gardeners' Orphan Fund, £5 5s. to the Wholesale Fruit and Potato Trades' Benevolent Society, £6 6s. to the Royal Surgical Aid Society, £6 6s. to the Charing Cross Hospital, £3 3s. to St. Dunstan's, £3 3s. to the London and Home Counties Benevolent Fund, and £2 2s. to the Covent Garden Lifeboat Fund.

Ideal Home Exhibition.—On Wednesday March 1 Princess Alice opened the Ideal Home Exhibition at Olympia at 3.30 p.m., when admission was by invitation only. The building was opened to the public at 5 p.m., but each other day, until March 25, the Exhibition will be open from 10 a.m. to 10 p.m. at a charge of 2s. The varied display embraces a vast working demonstration of newest devices and inventions for houses and gardens of all sizes. The large annexe holds a most beautiful collection of gardens designed by the Queens of Holland, Spain, Belgium, Norway and Rumania, Queen Alexandra, Princess Mary, Princess Alice, Lady Patricia Ramsay and four children of the

Royal house. To view these gardens an extra charge is being made, of which the whole proceeds will go to the Middlesex Hospital.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

IRIS HOOGIANA (North Notts).—This Iris does best when planted early in November and lifted when the foliage has died down—usually in July. The roots should be stored in dry soil throughout the summer and autumn until the planting season comes round again.

HYACINTHS FAILING (Timplae, Newcastle, Staffs.).—The cause of your Hyacinths flowering down in the crown is either excessive heat, putting into heat before thoroughly rooted, or possibly they were allowed to go dry at the root before being taken inside. Any one of these mistakes would account for the trouble.

MIGNONETTE PLANTS DYING (E. A., Holmes Chapel).—The diseases to which Mignonette is heir are few, and none seems to apply to the trouble stated by our correspondent. On full consideration of all the circumstances, we are inclined to the opinion that the dying of individual plants in the beds is probably due to injury, such as accidental bruising by a hoe. This would account for the appearance of damping off at the collar with large plants. The cultural detail followed by our correspondent is admirable and deserving of better results. If the trouble occurs during the coming season we should like an affected plant or two, with roots attached, for examination.

TREES AND SHRUBS.

SCREEN TO HIDE FOWL-RUN (C. B. W., Byfleet).—As far as we can visualise our correspondent's garden, it would seem that a Yew hedge would be altogether too stiff and formal for the purpose. Scotch Pines or Larch, planted irregularly 5ft. apart to form a screen rather than a hedge, would probably make at once the best windbreak and at the same time obliterate most effectively the fowl-run. The Beech hedge suggested should be better than one of Yew, but it would be wise, if possible, to avoid a hedge at all.

HEDGE OR SCREEN IN PARTIAL SHADE (C. B. W., Byfleet).—The amount of shade, and more particularly the amount of the drip mentioned by our correspondent, are rather important. It would be unwise to trust valuable hybrid Rhododendrons to such a site, but R. ponticum should succeed. Holly or Laurel or, unless the drip is very considerable, Berberis stenophylla would also answer.

MISCELLANEOUS.

WATERSIDE PLANTING (C. B. W., Byfleet).—If our correspondent gets a Weeping Willow for the canal-side site he mentions, he should take care that he does not obtain a specimen grafted in the head; such are never satisfactory. Golden Willows grow rapidly and would be very satisfactory in such a situation. Whether Siberian Irises would flourish depends upon the dampness of the site. They like plenty of moisture. Given this, some of the Candelabra Primulas would be admirable. P. japonica, P. Bulleyana and P. polycranta are recommended, especially the last. If our correspondent cares to send further details, particularly as to the area of moist soil, we could no doubt render further assistance.

BOOK DEALING WITH THE WIRING OF FLOWERS (E. T., Kent).—We are not aware of a book which treats on the subject of wiring natural flowers used for wreaths, bouquets, &c., nor does the subject seem to be embodied in any work on floral arrangement. It is not an intricate business, and we suggest that if instruction is needed most florists would give one or two practical lessons by arrangement for a moderate fee.

ARTIFICIAL MANURES FOR THE FLOWER GARDEN ("Withy").—Our correspondent may use bone meal (finely ground) or guano for the flower garden at the rate of about 2 oz. to the square yard, or where lime is present, a mixture of five parts superphosphate, three parts sulphate of ammonia and two parts sulphate of potash, at the same rate. Where small areas are concerned the extra cost of some of the well known proprietary manures is compensated for by the trouble of mixing such things as the above. Bone-meal is less active and more lasting in its action than the others mentioned.

NAMES OF PLANTS.—C. S. C.—Hedera Helix var. narniorata.—G. B. W.—Impatiens Sultanii.

CATALOGUES RECEIVED.

- Charlesworth and Co., Haywards Heath, Sussex.—Orchid List, beautifully illustrated in colour.
- C. Engelmann, Saffron Walden, Essex.—Perpetual-flowering Carnations.
- Maxwell and Beale, The Dorset Nursery, Broadstone, Dorset.—Hardy Plants.
- L. R. Russell, Limited, Richmond Nurseries, Richmond, Surrey.—Flower and Vegetable Seeds.
- H. Corvejon, Floraire Nursery, Chêne-Bourg, Geneva.—Seeds of Hardy Perennials.

PUBLICATION RECEIVED.

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THE Ideal Home Exhibition, now proceeding at Olympia, is exceedingly interesting to everyone interested in economy, whether of construction or upkeep as applied to the home. To the gardener and garden-lover, however, interest centres in the annex, where are situated the "Queens' gardens," of which we have heard so much. They are assuredly worthy of eulogy as representing the most ambitious effort in garden construction at an exhibition ever attempted in Britain. Beautiful as these gardens are, however, and useful as are the lessons they teach to every garden-owner, one feels that a better corollary to the model houses shown in the exhibition would be full-size or half-size representations of tasteful arrangements for an ordinary small to medium sized suburban or country house. That most practical of idealists, the great Ruskin, writing of another sort of Queens' gardens to those on view at Olympia, says: "Suppose you had each, at the back of your houses, a garden, large enough for your children to play in, with just as much lawn as would give them room to run, . . ." Alas! that in this twentieth century there should, in so many cases, still be need to suppose such a thing. Alack! and alas! that, where the garden plot is provided, it is so often put to little use, either practical or artistic.

Garden Photographs.—Many readers of THE GARDEN have but small gardens. The great majority of readers, it is safe to say, have grounds which, compared to the big gardens attached to equally large estates, of which so many are to-day being broken up, are quite small. Many of these smaller gardens, there is no doubt, have real beauty. Pictures of such would be very helpful to fellow-readers. The views in large gardens, which, for want of better, are often used to illustrate the points of articles, though they give the idea recommended, are hardly so useful to the man or woman with limited space at command as would be views showing such ideas translated, in a limited space, into actual fact. If any readers have such photographs by them, they will perhaps send prints, accompanied by any relative particulars, with a view to publication.

Their name and the address of the garden need not be published if they would rather they were not. The size of the picture is not of much importance so long as the prints be quite "sharp." Glossy paper prints are best, preferably on silver printing-out paper, but this is not essential. Accepted prints will, on publication, be paid for at the usual rate unless a wish is expressed to the contrary.

The Mouse and Vole Plague.—The numerous correspondents who have enquired where they

can purchase the Colin Pullinger balance mouse-trap referred to in correspondence as effective against both voles and mice, even in the rock garden, will be glad to hear that it is manufactured wholesale by Messrs. Duke, Waring, Crisp and Co., 139, Wardour Street, W.1, and obtainable through any ironmonger. It is desirable, if the ironmonger is not a stockist, to give him the makers' name.

Push On!—With the season of general growth approaching apace it is time that all deciduous planting were rapidly brought to a close. Such things as Rhododendrons, Yews and Hollies may successfully be transplanted in May, so that, where work is in arrears, they may be left until last. The May planting fetish is, however, if not dead, at any rate rapidly dying. It is to-day generally allowed that the earlier the planting can be carried out the more successful is likely to be the result. Really early planting—the best of all—was quite out of question this planting season owing to the parched condition of the ground. The results are noticeable enough in gardens to-day. Herbaceous plants are, speaking generally, hard to kill, but every week which now elapses, before planting is finished, will depreciate to some extent the sum total of effect in 1922. The same applies with equal force to roses, at any rate as regards the first crop. A good second crop of blossoms may be obtained from trees carefully transplanted—not from a distance, of course—even in June. The last week in May and the first two weeks of June are probably, of all the year, the best times to transplant specimen conifers which must be removed but which have not been recently transplanted. Provision must, naturally, in that case be made for copious waterings should the season prove droughty.

A New Lawn-Mower.—Visitors to the Ideal Home Exhibition should not fail to see the new "J. P." lawn-mower on a stand in the annex. This is at any rate an engineer's job with its sun-and-planet gears and SKF ball bearings, remarkable alike for the ease of its adjustment and the speed transmitted to the cutting cylinder. Should it carry out in practice all the makers claim for it, it should become popular.



CLEMATIS MONTANA. ALL CLEMATISES MAY NOW BE PLANTED.

THE SUBURBAN GARDEN IN WINTER

The writer shows how the too common dearth of winter flowers may be overcome.

WORKING through an average suburb in winter it is difficult to realise that a very large number of the inhabitants have a genuine love of gardens and flowers. An occasional yellow Jasmine, a great many specimens of Pyracantha (often with very few berries), and now and then a Laurustinus bush are practically all there is to attract the eye; even these are seldom seen in full vigour. In summer most of the little gardens are gay enough, but in the dull months, when the need for cheerful sights is greatest, little is to be noticed but a superabundance of evergreens producing a most dreary effect. The causes of this winter dullness appear to be fourfold: (1) want of knowledge of many of the most suitable plants; (2) lack of proper preparation of the soil and simple cultural care; (3) fear that the garden will not be so gay in summer if plants are included which are not effective at that season; (4) the unsupervised jobbing gardener.

A visit to Kew Gardens on a fine day in midwinter would be very enlightening to many people. In addition to the above-mentioned Jasmine, Pyracantha and Laurustinus, the easiest grown winter-flowering plants and berry-bearing shrubs are probably Hamamelis mollis (a fine yellow-flowering shrub), Daphne Mezereum (both white and pink), Rhododendrons dauricum, mucrolatum and praecox (all much alike, pink), Garrya elliptica (evergreen), Chimonanthus fragrans, Berberis Bealii, Lonicera Standishii, Erica carnea (in various shades of pink as well as pure white), E. darleyensis or mediterranea hybrida, Iris unguicularis (in various shades of blue or purple and also white), Clematis calycina (a climber), Petasites fragrans (the Winter Heliotrope), Skimmia japonica, Cotoneaster rotundifolia, C. microphylla, Erandis hyemalis (the Winter Aconite), Cyclamen Cornu-albernicum, Narcissus

Bulbocodium, Crocus Imperati, C. Sieberi, Helleborus niger (the Christmas Rose) and Galanthus nivalis (the Common Snowdrop).

Most of these thrive best if left undisturbed for several years at least, so that it is essential to prepare the ground very thoroughly before planting. If possible, trench it deep, adding as much good sweet loam and well decayed manure or leaf-mould as possible, also road grit if the soil is very heavy. Most plants would also appreciate

a dressing of lime (omit this for Rhododendrons, Ericas and Hamamelis). If unable to have the ground trenched, at least dig large and wide holes for the shrubs, and add to the soil as above. With the exception of the bulbs (which should go in as early as possible in the summer), plant in March, or April. Be very careful to plant firmly, stake if necessary, and see that no fatal draught can blow upon the position chosen. No further attention will be needed except to make sure that the plants do not suffer from drought in late spring and summer. Give a thorough watering now and then, and protect the roots from the scorching rays of the sun by a mulch; or better still, for a small garden plant low-growing things, such as Violas or London Pride, which will serve the same purpose. No pruning will be required,

Narcissus and the Christmas Rose. The Hamamelis, Daphnes and Ericas like an open place, also the Crocuses. The Garrya, Chimonanthus and Lonicera like the protection of a wall, but this is not essential. A considerable amount of thought will certainly have to be given to the subject if the summer show of flowers is not to be affected. But there are several plants which add greatly to the beauty of the garden at that time which will appreciate the companionship of these winter flowers. It is only necessary to mention the splendid family of the Lilies to be at once reminded that branches of shrubs will protect them from those late frosts which so often check their growth, and also shade their roots from the burning rays of the midsummer sun. Only the Iris and Ericas will be found to object to a little crowding and consequent shade in hot weather.

Lastly, if it is desired to have a flowery garden in winter, it will be necessary to see that the gardener knows just where the bulbs are, and that he does not dig there precisely at the time that they are beginning to shoot. He must also give up his habit of pruning everything as hard as he can (when he frequently shears off the very shoots which would produce the flowers and berries if left to do so). If he also understands the art of summer mulching, all should be well.

A. E. W.



THE PATH THROUGH THE HEATH GARDEN.

For the suburban garden, an arrangement such as this gives a maximum of display in a minimum of space.

unless to remove some awkward straggling shoot.

Clematis calycina will need a warm wall or fence or a sheltered corner. Iris unguicularis needs a south aspect at the foot of a wall, also very poor soil with lime or builders' mortar rubbish. Petasites fragrans spreads very rapidly, and should be relegated to an out of the way corner or used to carpet a shrubbery border under evergreens. The Rhododendrons like partial shade, as do the little Cyclamens, the Snowdrops, Aconites, the

The Value of Heaths for Winter Effect

THERE is, perhaps, no race of plants so valuable for winter effect as the hardy Heaths. Not only is there one variety (*Erica darleyensis*) which habitually flowers in the dead of winter and several others which are interesting at that season in that they are smothered with half-swollen buds ready to open at the advent of spring, but almost every species and variety gives at that season an effort of furniture. They have an interest, too, even to the eye of the veriest amateur—an interest which needs no previous communion with nature to make it manifest, as is unhappily the case with much winter beauty of the countryside. The varying habits of growth lend variety. There are entirely prostrate forms, such as *Calluna vulgaris*, *Foxii* and *pygmaea*, and from them by degrees, as it were, through plants of the habit of *darleyensis* and *carnea* to quite erect-growing kinds, such as *mediterranea*, *lusitanica* or more especially *stricta*. The gradation of foliage colouring is not less wonderful. The range even of the common *Ling*, *Calluna vulgaris*, runs from the clear bright green of *alba Serlei* to the almost black hue of *Alporti*, which makes the clear greens seem the brighter by contrast. There are in addition golden and bronze leaved forms of *Ling* which give a much to be desired note of warm colour when days are short and dark. If to these we add the varying forms of the different species of *Erica*—*vagans*, *Tetralix*, *cinerea*, *mediterranea*, *lusitanica*, *stricta*, *australis* and *arborea*, with foliage differing widely in size, arrangement and texture and in innumerable shades of green—some bright, some dull, here blackish, there glaucous, now covered with buds for next season's crop of blossoms, now lit up with the warm brown of masses of last year's seed-pods—it is easy to understand why, even to the uninitiated, the Heath garden always affords interest even in the dead of winter.

THE GARDEN GATE

The artistic value and practical worth of the unpretentious gateway, with hints on its setting and maintenance.

WHAT a difference the entry into the garden or into some portion of it makes in the appearance of the whole! Its lay-out surely demands our most careful study

and wisest thought. It is a question that is of even more importance in the small or medium sized place, than where there are acres of grounds in which a single item is sure, to some extent, to be swallowed up by the design as a whole. In a restricted area the value and decorative effect of a fine entry or gate is accentuated and appreciated to its utmost. Such gateways vary enormously in character and construction and, while all are good in their place and when suited to their surroundings, care should be taken to see that they harmonise with their accompanying conditions. A fine old open ironwork gateway, with its typical brick piers, round stone balls and large pots overflowing with Hydrangeas, for instance, is eminently suited for proximity to the house or other buildings, but placed in the middle of a garden, it would lose its meaning and appear foolish unless, indeed, it were cut through a wall leading to the kitchen garden. Even then it always appears to me a pity not to have used it nearer the house.

An open gateway always has a great charm as one approaches it, in that it permits but a partial view of that which lies beyond and so keeps you guessing at a partially revealed mystery, enticing and urging to further exploration. Wooden gates of substantial structure, fitted in under an archway of some gay climber are most effective and, generally speaking, as cheap to construct as possible, though for absolute permanence, there is nothing to equal iron, kept well painted. The wooden gate, however, is a gate of great charm, especially if in the natural colour of the wood from which it is made, and simply varnished to preserve it. Paint in any form is simply unthinkable in connexion with a gate that is to be really artistic. One recoils in horror before the vision of the "garden green" coating with which some folks are willing to coat their trellis or woodwork in the garden—a green that wars violently with every known tint of nature. Better far, if painting is the only course, to employ a darkish neutral brown that has at least the merit of looking inconspicuous, though there is nothing to beat the tones of the natural wood either stained or varnished.

A gate must be sufficiently high to suit the purpose for which it is placed in its position, but

should never be carried higher than necessity demands. A gate—breast high—with an arch of similar wood above it, either in the fashion of a lych-gate or simple arch with Clematis, etc., rambling over it, is effective, so that it consists with



A PLEASING GARDEN GATEWAY.

adjacent architecture, both when seen from a distance and when one leans across the top and gazes upon the garden beyond. Never let it be forgotten that a gate—like everything else—should have some reason to justify its existence and, therefore, ought to be kept shut. The simpler the latch the better: just a latch that drops into a staple on the opposite post being all that is necessary. Nothing is more annoying than a latch that is difficult to open or a gate that "sticks." Of all types the gate that swings itself shut and closes by a simple latch and staple is the best and most readily re-adjusted if the post should sink.

Much can be done, when fixing the gate, to ensure its shutting behind those who enter by giving a slight tilt to the posts so that the balance of the weight of the gate tends to swing it closed. A spring is always a great assistance, but these in time become weaker and fail to shut the gate unless combined with the tilt I have described. It is not desirable to accentuate this tilt too strongly or the gate will close with a crashing bang that, quite apart from its nerve-shattering effect, is bound in course of time to disturb the setting and to cause the post to work loose.

For wooden gate—the best type of hinge is one that spreads across the face of the gate and is held by several screws rather than a butt hinge which is let into the post and one edge of the gate. Rolling hinges, springs, latches, etc., should be regularly done, especially in winter, as the more easily these glide the less jar there will be to disturb the setting. W. H. CANNING-WELCH.

The Adaptation of Plants to Environment

Illustrated by the Gentianella and its Alpine cousins.

THE old *Gentianella* of English gardens was introduced into England at the end of the sixteenth century. Its characteristics differ from those of the wild type, having been adapted to the mild climate.

I brought some with me from England and cultivated them forty years ago, near other types, to study their adaptation. I made thus some interesting observations upon them. I took up the study on the suggestion of the late Professor Romanes of Oxford, who was the scientific heir of Darwin. He induced me to try the culture for observation purposes of types nearly allied, but coming from different countries. We began this in our botanic garden at the Linnaea in the Valaisian Alps (5,800 ft. altitude). But there was no possibility of close observation so far away, so I tried here at Florare. I took all the different acaulis forms—*angustifolia*, *alpina*, *Clusii*, *dumosa*, and *Kochiana*, together with the garden plant *Gentianella*. Mrs. Montgomery of Blessingbourne, Ireland, sent me once a photograph of a bed she had in her garden which approached perfection. Millions of flowers of *Gentianella* crowding one another in an ordinary garden bed. It was such a sight that nobody here would believe that the picture was not taken in the high Alps. Even in the Alps I never saw anything like it. So I hoped to grow it so at Florare, but such results are impossible. I hasten to say, in our Continental climate.

There are five different species of acaulis type. The French botanist, Perrier de la Bathie, published a note on the different alpine kinds in our Bulletin for the protection of plants* which my late friend Sir Henry Yorke, translated into English; he gave the description of *G. angustifolia*, *Clusii*, *Kochiana* and *alpina*. *Kochiana* and *Clusii* are the anatypes, the one of the granite-calciferous, the other chalk loving. The three others are, or seem to be, indifferent as to lime.

G. Kochiana Perrier = *G. excisa* Koch = *G. latifolia* Gr. Godr. is the plant of the granite mountains. It grows in the Jura too and in other limestone countries, but only in decalcified soils in which rain has washed away the chalk. It has large, broad, thin, light green leaves; they are marked by five big veins, rarely only three, and are lanceolate-oblong, never pointed, oval, rounded, paddle-shaped; the calyx segments are short and flat and never adhering to the corolla, but rather recurved and separated by truncated sinuses. The flowers are dark blue and rather dull violet, with five large green spots inside. It is the more difficult for us to cultivate because our water is too chalky. The plant is not at all stiffly upright and forms dense patches not more than six inches across.

G. Clusii Perrier is distinguished by its leaves, which are lanceolate, pointed and coriaceous, by the lanceolate sepals which are adherent to the

* Bull. ass. p. 17, 74, Geneva, 1884. Baron Perrier de la Bathie, translated into English by Sir Henry Yorke, Greenwich, 1897.

corolla and in nowise contracted at the base and are separated by sharp sinuses. The flowers are not so large nor so open, but of a good, deep, very brilliant blue, with the lobes of the corolla shortly rounded, on a short stalk often bearing two short, pointed, dark green, opposite leaves. The plant is generally small, building up dense tufts of dark and shining foliage. It grows on the rocky, sun-kissed slopes of the Jura and of the limestone Alps between stones and gravels. Its culture is very easy and, like *Kochiana*, it never runs. (Synonyms: *G. G. coriacea* (St. Lag.), *firma* (Kern), *vulgaris* (Beck).

Quite different are the two stoloniferous kinds. *G. alpina* (Vill.) is a creeping little plant forming on the slopes of the Alps (granitic or limestone), and of the Pyrénées,† and Sierras of Spain, large carpets of bluish grey-green leaves in small rosettes; the leaves are small and incurving and the flower is without any stalk, quite stemless, so that botanists think it is the true *acaulis* of Linnæus. The flower is rather small, but of a good blue and opens widely. It grows only on dry pastures in full sun. I found on the Pic du Midi (Pyrénées) a form with pure white flowers. The albino *Kochiana* is fairly common, but I never found a white *Clusii* nor *angustifolia*.

G. angustifolia (Vill.) = *sabauda* (Boiss.) = *occidentalis* (Jakow) = *grandiflora* (Lam), is the king or the queen of them all. Nothing can give an idea of its beauty when shining above the paths or in the grass of the Alps of the Dauphiné or in the Pyrénées.† I found last year at the base of the Mont-Aiguille one of the most beautiful things

I ever saw—and I have been all over the Alps. It was on the slope of the big road coming from Chichiliane to the station at Cleilles (on the line Grenoble to Venness); from afar we saw the brilliant gay green slope covered with that rich carpet. I said, "What kind of Periwinkle is that?" believing it to be a *Vinca*. The ground was covered with it; then we saw the dried flowers of *Gentiana angustifolia* with unripe seeds. What a glory! No words can give the impression we had there. The plant is of very stoloniferous character, creeping everywhere and increasing as well as does Periwinkle. The leaves are narrow, sometimes linear, very long and with one, rarely three veins. The flowers are very large, of a good sky blue and borne on a long stalk, sometimes Sims. tall; they are perfect in form. The cup is widely open and inside there are five green spots. It forms large tufts of grass-like foliage, sometimes 3ft. broad! A friend of mine has made with it quite a lawn. The culture of it is the easiest possible, and I think it was originally the *Gentianella* which has altered in character under centuries of culture.

G. dinarica (Beck) = *Rochelii* (Kern), is to be found in the mountains from Herzegovina to Bosnia. The plant is not caespitose, has deep blue flowers, without any spots inside, with broad, pointed, bright green leaves, long and narrow calyx segments, drawing to a sharper point. The flower is very large, but not so large as *angustifolia*. Its culture here is easy.

Floraire, Geneva.

H. CORREVON.

† It grows only in some parts of Dauphiné and here and there in the Pyrénées.

DECIDUOUS TREES IN WINTER

BEING so fond of trees as I am, I suppose I ought to count it a misfortune not to possess any of my own except a few picturesque old Apple trees, which, though desirable and satisfactory as far as they go, supply no equivalent for the variety in form and character of our many deciduous woodland trees. This privation, however, does not make me so unhappy as one might think, because, though I have no timber of my own to potter about and among, I am free, when the humour takes me, to use the grounds and park of Carabas House, the country residence of my excellent neighbour, Baron d'Yvetot, where the planting has, for generations, been done with an eye rather to picturesque effect than to profit. I am well aware that there are persons to whom my sentiments and likings in respect of trees must seem questionable, for, though to me a tree is a tree in any one of the four seasons, it is most especially a tree in the dead season of the year, when you see it divested of the superincumbent wrapping of foliage, which, though interesting of course, and beautiful, as tasteful drapery invariably is, serves, nevertheless, as drapery so often does, to hide a multitude of essential details. It is only, I think, when you see a tree in its unabashed nudity that you can get at the core of its character—for only then can you see, naked before you, the scheme on which Nature has designed it. Take, for instance, my own Wych Elm. I call it mine, holding that it belongs to me as much as to anyone else, and perhaps more; for do I not, year after year, travail in fear that, next time I pass that way, I shall find it cut up into logs: an emotional purgatory, I am very sure, not within the experience of the person who has, *de jure*, the power to do with this tree what he will? And what, I ask, constitutes real, as opposed to legal and merely nominal ownership, if not such labour as mine of the soul and the

affections? My Wych Elm, as I have every moral right to regard it, stands near the gate of a neighbouring farm, and close to a turnpike, along which I have occasion to pass, summer and winter, at intervals. In summer, I will not deny it, this tree is a magnificent dome of foliage; and yet not a dome, neither, in the way of the rotunda of St. Peter's or St. Paul's, for it is not a single dome so much as an accretion of domes, one billowing into another, but all of a joinery so architecturally perfect that—unless you happen to be in a motor 'bus or other non-stop vehicle—I defy you to pass by the tree in the month of June without stopping to wonder at the lush richness of its masses, and to note, with whatever feeling for art you happen to possess, those swellings and depressions (so many hills and valleys you might call them) of green light and purple shadow; an effect, if not actually invented by Rembrandt, at any rate used by that artist to its permissible limit, and, since his time, abundantly copied by Nature, sometimes, perhaps, with a stronger emphasis of chiaroscuro than an art-critic of discriminating taste might think altogether advisable. But fine as the Wych Elm of June unquestionably is, what is it to the January tree, when you see the bark, the warty bole, and the branch-spars in their naked simplicity, with no ornament but their native strength and symmetry, when, also, looking further aloft, you note the tracery of the drooping and interlacing twigs projected against the winter sky like a Moorish pattern on a wall of the Alhambra? It is then you really see *the tree*. What you see in summer, as Teufelsdröckh would assure you, is only the millinery.

I wonder whether there is in the English language, such a word as "twiggy" (collective of "twig"), whether it occurs, for instance, in the Oxford dictionary, of which, unfortunately, I have not a copy by me to consult. I hope not,

because I should be more than gratified to go down to posterity as the inventor of this desirable and necessary vocable. "Twiggy," a possible paragraph in the next edition of Dr. Murray's dictionary may run, "collective of 'twig,' on the analogy of 'greenery,' first used by 'Somers' early in the twentieth century—the characteristic system of twigs or terminal branchlets, which, during the period of hybernation, serves to distinguish one genus of deciduous trees from another." Those to whom a tree is anything at all must have noted how each genus—Oak, Ash, Elderberry—is characterised by its twig-pattern; in short, by its "twiggy." Anyone who cannot identify trees in winter-time by a glance at their twig system, may possibly, when he sees a tree, know that it is a tree and not a camel, but as to any really intimate knowledge of trees he has not yet reached even the alphabet. I modestly disclaim for myself that knowledge of trees, valuable in its way, which is acquired through the dissecting microscope. At the first tree we came to you would very likely floor me if you asked whether the tree in question were diœcious or monœcious. I should probably reply by asking what you meant. And when you had explained—"Oh, yes," I should say intelligently, "I see what you mean. Hollies are diœcious, because, while one individual takes his ease, the other bears the babies." But, for my part, I do not anatomise my trees too curiously. My knowledge is of the surface and empiric, not of the recondite order. I just look at a tree-top and say: "Yes, that is a Larch, or a Chestnut, or an Ash," as the case may be. Then, again, there is the bark—or, perhaps, I should say "barkage," on the analogy of "leafage" (meaning foliage)? The bark is as much a matter of interest and distinction as the twig, though I do not myself find the characters here quite so easy to read as those of the twigs. You see, the furrows and convolutions are so endlessly intricate. Only the other day (to be precise, it was February 10), the frost making profitable work in the garden impossible, while the sun shone with the brilliancy of August and the east wind cut like a thousand knives, I bethought myself of the stillness and shelter of the Carabas woods and park, until something like a hunger took me to see, against such a spotless sky, the various woodland trees in all the rich intricacy of their "twiggy." No sooner thought than done; but when I had wandered all the afternoon, much to my heart's content and enjoyment, through those soft pastures and arborous glades, I came away humiliated to think that I had made several mistakes in bark-reading; that I had, more than once, taken one bark for another which it somewhat resembled, failing to perceive my mistake until I glanced aloft at the "twiggy." Scotland Yard will tell you that each human being bears an unforgeable signature on his finger-tip, by which he may be identified though he hide himself among a thousand. Equally may each kind of tree, among a multitude of genera, be known by its distinctive bark-print, if only you have the skill to read what is as plain as if it were typed in great primer. Certainly the bark-script was not on this occasion always so plain to myself as it ought to have been. But that is nothing to the point; it only shows that I have not yet altogether mastered the art of reading Nature's finger-prints. Of course, there are barks which the most arrant dunce in trees cannot mistake, such as the smooth grey of the Beech, the white satin of the young Birch, the smooth olivaceous cuticle of the Aspen, the greenish grey of the Ash, and the nut-brown, stippled and varnished bark of the Hazel and the young Alder. But the bark varies in texture with the age of

the tree; and it is when trees attain a certain age, and, as is the way with age, put on various asperities and corrugations, each after its kind, that it requires experience and observation to distinguish at a glance the sign-cortical of one tree from that of another; for this differs not merely in trees of different genera, but even in trees of the same species at different ages. Take, for instance, the case of the Birch. The young and adolescent Birch has the silvery-white bark which gleams so cheerfully against a background of

Scots Fir or Holly. The bark of the aged Birch, on the other hand, is scored with pits and furrows of a depth and ruggedness such as you will hardly find exceeded on the trunk of an old Oak or Elm. But, however scarred and rough aged trees may be, each has its own corrugation pattern, the essential difference of which no words are subtle enough to describe. Only the camera or the hand of the observant artist can register those frequently similar, yet endlessly different, reticulations and convolutions. SOMERS.

The Vinery: General Hints on Culture

AS enquiries as to the best treatment for Vines are often received, I am writing these few hints for the benefit of fellow readers of THE GARDEN. As the cost of fuel is a great consideration, the present time is quite early enough for starting the Vines into growth. Started now, very little fire-heat should be required, except in cold, wet weather.

Assuming the Vines have already been pruned, all loose bark should be removed and the rods well washed with a reliable insecticide; the glass and woodwork should be thoroughly cleansed and the walls lime-washed. A clean start makes all the difference later in the season.

If the borders are inside the house, a good soaking with tepid water will be necessary when the house is started. As many amateurs utilise their vineries for other plants, care must be taken not to get the border in a sodden and sour condition, as this and extreme dryness at the roots are the chief causes of bunches shanking.

A temperature of 45° at night will be high enough to start with, allowing for a rise of 10° or 15° during the day under solar heat.

The Vines and all bare surfaces should be well syringed two or three times daily, according to weather conditions.

Old Vines usually break freely, but young rods should have their ends tied towards the bottom of the house to ensure an even break. Disbudding should be done as soon as it can be seen which are the strongest growths. If there is room for extending the rods, a well placed shoot should be tied in for a leader. They should have their points removed, so that when they have finished extending there will be 6ft. of growth. This will strengthen the future rods. The laterals on these leaders should be stopped at the fourth or fifth leaf, according to the space available. The fruit-bearing laterals should be stopped at two leaves above the bunches, and the sub-laterals at the first leaf, unless there is a blank space to fill, when these may be allowed to make a few extra leaves. Stopping of the shoots should be done regularly each week, then the Vines will not receive a check by removing any quantity of foliage at one time. The chief point is not to overcrowd the foliage, as one well developed leaf,

fully exposed to sunlight, is worth six small, weak ones.

If the Vines are in a healthy condition, they will require their second watering about eight weeks from starting. Give them a thorough soaking with tepid water and liquid manure. This will carry them over their flowering period.



VINES GROWN THICKLY ON THE SINGLE ROD SYSTEM AT ST. PETER'S VINERIES, GUERNSEY.

When the Vines are in flower, a night temperature of 65° should be maintained, allowing 5° higher for all varieties of Muscats, although I have seen even Muscat of Alexandria set well in a temperature of 60°.

By keeping the atmosphere of the house drier during the flowering period, and giving the rods a shake several times daily, the varieties Black Hamburgh, Foster's Seedling, Alicante, Appley Towers and Madresfield Court all set freely, but Cannon Hall, Alnwick Seedling, Lady Downes and Muscat of Alexandria are sometimes shy in setting. The best way to ensure a good set of these varieties is lightly to spray them with warm soft water at 9 a.m., using an Abol syringe for this purpose; afterwards draw a rabbit's tail over the bunches very lightly at midday, and all will be well.

Surplus bunches should be removed as soon as it can be seen which are the best shape; a medium-sized bunch should be retained in preference to a long, straggly one. The number of bunches to be left on each rod will depend on the strength of the Vines, taking care not to overcrop, or the berries will be small in size and lacking in colour when ripe.

Thinning of the berries should be done as soon as they are the size of Peas, thinning them out well from the centre, especially late varieties, as a berry getting wedged in the centre of the bunch will often cause decay. The operator must be careful not to touch the berries with head or hands, or they will be permanently disfigured.

When thinning is completed, give the border a sprinkling of an approved Vine manure and a good mulching of thoroughly rotted cow-dung, and well water it in. It is advisable to leave a little top ventilation on for a few nights, to avoid damage from the ammonia rising from the dung.

Treatment, from now until the berries commence to colour, consists in keeping the house well damped when necessary. A thorough damping three times daily in bright weather will keep the Vines healthy. Should a spell of cold wet weather set in, keep a little warmth in the heating apparatus and keep less moisture in the house.

If the Vines are growing strongly, a thorough soaking of water should be applied once each month until the Grapes are ripe; then, if it is necessary for the bunches to remain on the Vines for a long time, the border should be kept a little drier, or the varieties Foster's Seedling and Madresfield Court are liable to split.

As soon as the berries commence to colour, open the ventilators both top and bottom, night and day, opening them wide on warm, bright days, as the warm, fresh air improves the colour.

If red spider or thrips attack the foliage, sponge the leaves at once with a solution of soft soap and flowers of sulphur. Mildew can be kept down by applying sulphur to the affected leaves.

When the Grapes are all cut, the border should be watered with liquid manure, and this should be repeated, as necessary, until the leaves have ripened and fallen, so as to have well ripened wood for producing the crop in 1923. C. H. W.

Young and Old Vines

Hints on the treatment of the new shoots.

VINES, when in fairly good health, grow rapidly and, if the new shoots are not duly attended to, and in a proper way, they soon become a tangled mass and the crop of Grapes, to which the anxious cultivator has looked forward, is far from satisfactory.

Grape Vines, to be a real success, must be very carefully treated all the year round, but much depends on the work done during the spring months. The expert knows exactly what to do, but the beginner does not; to such these brief notes and the accompanying sketches will prove helpful.

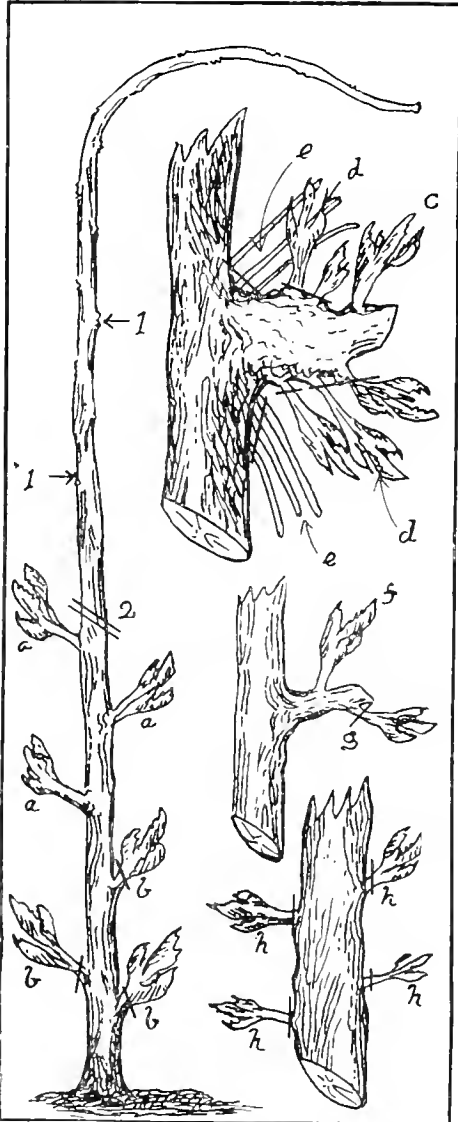
The young Vine, when planted late in autumn, or soon after Christmas, is usually cut back to the desired height—generally 1ft. to 2ft. from its roots, at a time, too, when the sap is dormant and there will not be any danger of bleeding (loss of sap) when the latter rises naturally in the young rod.

But circumstances may occur which would prevent the due pruning back of the young rod, or cane. All young Vines that are not pruned at the present time must not be cut in the usual way, but treated as shown in the sketch. It is a very simple matter. Directly the buds burst into growth, begin at the top and remove every one from that portion of the cane marked Nos. 1, 1 when the young shoots are half an inch long. Leave this denuded portion uncut till midsummer or the following autumn, then cut it off at the two dark cross lines No. 2. All young shoots below this point must be retained. The top

one, marked *a*, will be the leader, and the others, marked *a*, *a* also, must be trained to right and left respectively, the points being pinched off when they have grown 2ft. long.

These three shoots will lay the foundation of the new Vine. The other shoots, marked *b*, *b*, *b*, should be stopped when they are 1ft. long and be cut away entirely at the autumn pruning. If left to grow 1ft long the first year they help, considerably, to establish the young Vine.

The old spur often causes much anxiety to the beginner, as so many young shoots grow from it; also air-roots, in the case of old Vines



DISBUDDING NEWLY BROKEN VINES.

with defective root-action are subjected to too much atmospheric moisture. Only one young shoot must be retained—the one on the previous year's wood, and marked *e* on the sketch. All the others, marked *d*, *d*, and the air-roots marked *e*, *e*, must be rubbed off.

The spur shown is one year old; it has been pruned back to two eyes, or buds, *f* and *g* respectively. The one marked *f* is the one to retain.

Many old Vines, especially those that have been neglected for a number of years, very frequently bear numbers of young shoots, shown at *h*, *h*, *h*, *h*. These shoots must be removed while quite small, unless any of them would prove useful to form a new spur in the case of gaps on the old rod.

GEORGE GARNER.

ECONOMY IN THE GARDEN

A Space-saving Idea for Frames and Greenhouses

PRICKING-OFF time has arrived or is coming for numbers of seedlings which, unless promptly attended to, will spoil one another in boxes. Tomatoes and summer bedding plants of many kinds require to be pricked into boxes or thumb pots if they are to make good specimens. The poor harassed gardener who is limited with his frame and greenhouse accommodation often scratches his head (I do not know why this is conducive to thought, but it often helps) and wonders "where he is going to put all them danged" (but he expresses it more forcibly than this if his employer is out of hearing) "boxes and thumbs."

It is always an education to see how a professional gardener works, and I never lose a chance of watching one. Priding myself on the production of sturdy, short-jointed Tomato plants, obtained by early pricking off and inserting the seedling in the "thumbs" right up to the seed leaf, I was only too glad to see a "real gardener" carry through this operation a short while ago.

Like myself, he had a crowded greenhouse at the time when his employer ordered him to supply some few hundred Tomato plants. I should myself have looked round the house and have wondered where I was going to "put the danged things," and should probably have decided to box them off for a start, potting them up later on. But what do you think the gardener did with them? He put them into thumb pots, but there were two seedlings in a pot, and each seedling was placed as close to the pot's edge as possible!

As this was the first time that I had seen seedlings so pricked off, I asked the why and wherefore of the operation. The first reason for this was that space was limited and one hundred seedlings could be grown on in fifty pots until they were sufficiently large to be transferred into larger ones. When this became necessary, the potful could be easily divided into two portions, each containing the majority of roots of the respective seedlings. The gardener maintained that in this way less check resulted than if they had been boxed.

The reason for placing them close to the edge of the pot was to encourage quick rooting. Everyone knows how much quicker cuttings will root at the side of a pot than when inserted in the middle. It is the same when pricking off seedlings. The warmth of the frame or house immediately induces new root action, with the result that practically no check is felt and the seedlings rapidly get away. Saving of time is thus effected.

The gardener said that he would prick off his seedlings in exactly the same manner even if he had sufficient space to allow of his doing so in single pots, *i.e.*, he would put one seedling in each pot, but would plant it at the edge of the pot and not centrally, as nine out of ten amateurs would do it.—C. P.

Waste-saving Trench Gardening

TRENCH gardening as usually conducted is not only extravagant, but wasteful. Travelling up and down the country viewing gardens as I do, I often see trenches with single rows of plants in them, and sides sloping at an angle of almost 45°, instead of being vertical as they should be. What waste of ground! of manure! and of water!

Certainly with costs at what they are, every effort should be made to make the culture of crops in trenches as economical a matter as possible. This can be done if one is willing to expend a trifle longer in digging the trenches and at the same time is not above doing a little rough carpentry.

It is most important to make the trenches amply wide and to dig them early. It may sound ridiculous to urge the digging of Celery and Leek trenches in March, but it is by no means too soon for the work to be done if the soil on each side of them is to settle properly. Such consolidation is absolutely necessary if the trench ridges are to be cropped up to the edges.

Twelve inches to 15ins. should be the minimum width for all trenches. It should then be possible to get three rows of such plants of Celery and Leeks in each trench, not, of course, putting the three plants opposite one another, but placing them quincunx fashion, so that each one stands opposite to a space between two others.

The sides of the trench should be cut as near to the vertical as possible, and an effort made to hold them up.

There are several ways of supporting trenches, one of the best being to let in old boards at each side of the trench, putting them on their edge and in a vertical position. Behind them soil can be filled in. The boards should be made fast at each end and half way down the trench by driving in some short, but thick, garden stakes.

Even where there is an abundance of old wood, the above seems rather wasteful, so that an adaptation of it may well be carried out in gardens. A piece of board about 4ins. wide all along should have much longer legs nailed on to it at intervals. These should then be driven into the trench each side, and the whole board pushed in until its edge is just level with the surface of the ridge. After all, it is the top part of the ridge which falls in; the under-soil is usually much too solid, and thus if the top is held up by the board on legs the bottom will be all right.

The increased area which is thus made available for cropping is surprising, and the increased amount of food got from the land well repays the little extra trouble occasioned.

Now, as to economy in the matter of manuring the trenches. I consider it advisable to manure them *gradually*. Celery and Leeks should not be planted out yet awhile, so that the trenches may be left open. There may be thrown into them, as collected, all the spare weeds, turf verges, old cabbage leaves and general "trimmings-up" that become available. As each section of trench is filled with this material to the depth of about 6ins. or 8ins., soil should be thrown over it. It will then rot down and turn into manure by planting-out time. Where this is done the rubbish heap will occupy only a quarter of the usual space, as all suitable rubbish will go into these trenches.

Water is scarce in some districts, and in any case its cartage is expensive. Trenches, as usually formed, allow a big lot of water, and of liquid manure also, to soak into the sides instead of going down to the roots of the plants. Naturally, if boarding is sunk well down, it will obviate such waste; but it is not recommendable to do this, as the wood, however well painted or soaked in preservatives, is apt to decay, and decayed wood harbours fungi and is bad for the soil.

I have found it advisable, instead, to take out a little channel on each side of the trench, close to the side, about 2ins. deep. Into this is put the very thinnest line of concrete that one can

manage, using well crushed stone for making it, and not coarse gravel, and then follow this up for about zins. or zins. with a thin lining of cement and sand right along the sides of the trench.

When all is dry the soil can be replaced; then if the trench is partially flooded, one will find that the water does not soak into the sides, but goes straight down into the soil and is available for the roots of the plants. This method is not expensive, as it might at first sight appear, for one lining should last two or three years, if not longer, and need in no way interfere with the manuring of the trench. The spent humus is, of course, dug out after the plants are lifted and

fresh material thrown in. Trenches so treated can remain open for several years, though, of course, the upper boarding should be removed and well scrubbed, to remove earthworms, etc., and thoroughly soaked in preservatives before being replaced.

There is another way of gardening in trenches economically which is sometimes favoured. In this case no flooding of the trenches is attempted. Small zin. drain pipes are inserted vertically between the plants at intervals of a few feet of trench, and water or liquid manure is poured down these whenever it is required. This, however, is not as satisfactory as the other way and wastes ground in the trench. YORKSHIRE.

SOME OUTSTANDING NOVELTIES AT VINCENT SQUARE

THE most recent R.H.S. Show was particularly noteworthy in two respects and both connected with Orchids. Lieutenant-Colonel Sir George Holford set up a record by having eight awards (first-class certificates and awards of merit) for new Orchids of the same genus, and a new generic name was coined for a multi-generic hybrid, so *Potinaria* is recorded for the first time. If the Orchid Committee had followed the usual custom in such things this most brilliant Orchid would probably have been christened *Sophro-lælio-cattleya-Brasso-cattleya Juliettae*, but, even to the Orchid enthusiasts who delight in many-barrelled names and accept such as *Sophro-lælio-cattleya*, this would be too cumbersome. So a pretty compliment was paid to an eminent French Orchidist, and the glorious flower has a handy name.

The collection of *Cymbidiums* by Sir George Holford was stupendous and contained a great number of lovely plants, of which the best were those selected for award. The general exhibit received a gold medal and a silver-gilt Lindley medal. It is an understood thing that the gold

medal is for the owner of the collection, while the Lindley medal for cultivation becomes the property of the grower. For the most part these graceful, long-lasting Orchid hybrids have sprung from *Cymbidium giganteum*, which was introduced from North India in 1837, and *C. eburneum*, from the West Indies in 1846.

Chief among the general floral exhibits were hardy flowering shrubs which had been gently forced into bloom and so had retained all their natural beauty with the added charm of a certain delicacy of colouring. These included excellent *Wistarias*, *Prunus triloba*, several varieties of *Pyrus Malus*, such as *floribunda*, *purpurea* and *spectabilis*, and a most graceful little *Cytisus*—*White Gem*. At this season such shrubs may be gently hastened into bloom with the expenditure of very little fire-heat, and they brighten the home and conservatory for quite a considerable time. The earliest of the Himalayan *Rhododendrons*, of the type that flourishes so well in the Cornish Riviera and in favoured spots elsewhere, were to be seen, and, no doubt, these will soon be followed by more generous quantities from the Falmouth district

Spring bulbs were fairly represented by *Hyacinths*, *Tulips*, *Narcissi* and such, growing in bowls of fibre. Of these the *Tulips* by Messrs. Sutton and Sons made a highly decorative display, while in another place the same firm had a secondary show of *Crocuses*. These were also very well grown, and presumably the exhibit was designed to show the value of a white and shades of purple colour scheme, and in this it was most successful. Besides *Hyacinths* and *Narcissi*, Messrs. Bath and Co. had some most desirable little bowls of growing *Snake's Head Fritillaries*. These charming flowers do not seem to be in such favour as their many merits warrant.

Violets are always welcome, and the bunches by Messrs. Maxwell and Beale were not only of unusually large blooms, but were deliciously fragrant—in marked contrast to the enormous quantities that are now on sale in the streets, which have all lost their perfume. The bunches of *La France*, grown under glass, were naturally the better of the two sorts; but *Princess of Wales*, gathered from the open ground, were of more than usual merit.

A dozen dishes of an Apple named *Souring*, shown by Captain H. B. Tate, Billesley Manor, Alcester, were of excellent appearance. These and the new seedling were the only home-grown fruits on view, but there were samples of South African *Plums*, *Peaches* and *Pears* of beautiful colouring.

The Fruit Committee "sat on" some branches from an Apple tree supposed to be suffering from attacks of American blight, but were seen to be from that old variety *Burr-Knob*, or one very like it. This is an October to November culinary variety which produces a "profusion of burrs on the branches which emit incipient roots. If a branch furnished with these burrs is inserted in the ground it will take root and become a tree." It is also known as "Bide's Walking-Stick," a name which "originated from a person of that name having cut a branch for a walking-stick in Cheshire and brought it to his place near Hertford, where, having inserted it in the ground, it took root and became a tree." ("Hogg's Fruit Manual.")

NEW AND RARE PLANTS.

***Potinaria Juliettae*.**—This is a new Orchid with an entirely new name. It is the result of a cross between *Sophro-lælio-cattleya Marathon* and *Brasso-cattleya Ena*, so a new genus became necessary, and one was formed in compliment to M. Potin, the President of the National Horticultural Society of France, who has long been an authority on Orchids. It is a most glorious flower of sparkling vivid colouring that seems, as it is, full of life. In form it may be likened to a flattish *Cattleya* of medium to large size. The sepals are brick-red, with definite blood-red lines. The corolla is rosy carmine, and the broad lip is intense crimson, shading to orange-crimson at the base. First-class certificate to Messrs. Charlesworth and Co.

***Cymbidium Bronze Beauty*.**—A large arched spike, bearing many flowers. The green sepals and petals are freely stippled with bright brown, giving a bronzy appearance. The lip has a crimson blotch and lines. First-class certificate to Lieutenant-Colonel Sir George Holford.

***Angulocaste Sanderæ*.**—A beautiful hybrid Orchid, which in general appearance favours its *Lycaste* parent. A vigorous plant was shown, bearing plenty of almost golden yellow flowers. The outer petals are of soft yellow colour, while the centre is deeper in tone. First-class certificate to Messrs. Sander and Sons.

***Cattleya Tityus Wedding Bells*.**—A handsome flower of large size and perfect form. The rich



THE GRACIOUS CYMBIDIUM MIRANDA VAR. BRONZE BEAUTY.

velvety lip is of crimson lake colour and has golden and brown lines in the throat. The sepals and petals are a pale purple. First-class certificate to Messrs. Sander and Sons.

Cymbidium Thrush.—A stout, arched spike densely set with blooms. The sepals and petals are of greenish ivory colour, flushed on the outside with brownish purple. The lip is lightly spotted with crimson. First-class certificate to Sir George Holford.

Cymbidium Redstart.—An erect spike of roundish flowers. The hooded segments are lightly flushed with purple, while the lip is freely spotted with carmine, and the golden crest is very pronounced. Award of merit to Sir George Holford.

Cymbidium Redstart var. Brighteyes.—The great charm of this variety is the pale blush segments and chocolate-maroon spots on the lip. Award of merit to Sir George Holford.

Cymbidium Curlew var. Rosy Gem.—This was the most uncommon of all the Cymbidiums at the Show. The rosy pink to crimson markings on the lip rose clear above the old ivory coloured segments. It is a relatively small plant, but it bears a compact arched spike. Award of merit to Sir George Holford.

Cymbidium Kittiwake.—The milk-white segments surround a crimson lake spotted lip, which contains a golden crest—quite a startlingly beautiful combination. Award of merit to Sir George Holford.

Cymbidium Butterfly.—A large slightly arched spike, bearing many blooms of old ivory coloured segments and crimson-bronze lip. Award of merit to Sir George Holford.

Cymbidium Mirande.—An almost weirdly beautiful flower. The greenish-yellow sepals surround an ivory-white lip spotted and blotched with dull carmine. It is a graceful spike, evenly furnished with flowers. Award of merit to Sir George Holford.

Brasso-Lælio-Cattleya Camada.—A deliciously scented golden-citron-coloured Orchid which has a large, admirably fringed lip. One of the most beautiful of the many beautiful Orchids at the Show. Award of merit to Messrs. Charlesworth and Co.

Odontioda Venus.—A long, graceful spike of relatively large, roundish flowers of pale lilac colour, heavily marked with dull crimson. Award of merit to Messrs. Armstrong and Brown.

Odontioda Cissie.—Another graceful variety with blush lilac ground colour. The markings are of deep maroon, and the golden crest is very prominent. Award of merit to Messrs. A. and J. McBean.

Odontioda Latona Lilacina.—This is a very robust spike, bearing numerous roundish flowers with dull chocolate markings. The lilac lip sets off the golden crest. Award of merit to Messrs. Stuart Low and Co.

Sophro-Lælio-Cattleya Mars.—A very handsome flower. The light purple segments have a darker centre, and the slightly incurved lip is of velvety crimson colour. Award of merit to Messrs. Armstrong and Brown.

Saxifraga Brookside.—This novelty is stated to be a cross between *S. Burseria* Gloria and *S. Pauline*. It favours the former, but is inferior to it in merit. The flowers are rather smaller and not so pure a white. Shown by Messrs. R. Tucker and Sons.

Primula Juliae \times **Wilson's Blue.**—Several plants of this cross were submitted to the Committee, but evidently did not impress them, as no award was given. The flowers and forms are rather variable, but mostly of *P. Juliae* type. One named Lord Lascelles had a few flowers of reddish maroon colour. Profusion bore most flowers, but they did not show any advance on

other sorts. Purple King had the largest flowers, and this was nearest the ordinary garden Primrose in habit. Shown by Messrs. R. Tucker and Sons.

Anchusa myosotidiflora.—Although not a new plant, this pretty plant, bearing plenty of forget-me-not blue flowers, was evidently rare to many visitors, who greatly admired it. There were many pots of well flowered plants about a foot high. It was introduced from Siberia in 1825 and will thrive in a sunny place in ordinary soil. Shown by Mrs. H. J. Tennant.

Narcissus Princess Victoria.—An incomparable variety with a very long stalk and good

yellow flowers with widely expanded orange-tipped cups. The perianth segments are curiously curled at the edges. Shown by Mr. W. A. Watts.

NEW FRUIT.

Apple Pope's Nonsuch.—This seedling dessert Apple was considered by the Committee to be somewhat similar to Radford Beauty, a Nottinghamshire variety. It is a roundish fruit, yellow skinned, heavily flushed with red on the sunny side, of good flavour and is a good keeper. Shown by Mr. W. Pope, Welford Gardens, Newbury.

QUEENS' GARDENS

Being a description of the gardens in the Annexe at the Ideal Home Exhibition now proceeding.

THE display in the Floral Annexe to the Ideal Home Exhibition, the proceeds of admission to which go to the Middlesex Hospital, is, for the season of the year, wonderfully fine. Messrs. James Carter and Co. are responsible for a garden modelled to half size from H.M. Queen Alexandra's favourite garden at Sandringham. This is an epitome of the English spirit of gardening—quiet, restful, restrained and wonderfully finished off. It was much admired by H.M. Queen Alexandra, who visited the Exhibition on the opening day. The foreground is laid out in parterres of scroll design introducing red, pink and mauve (William Copland) Tulips carpeted with *Erica carnea*, while, around a handsome central well-head, Emperor Daffodils are massed. Connected pillars frame a less formal background planted with various conifers and relieved with a variety of Narcissi in informal but balanced array. The entrances to the garden are defined by miniature ball-capped pillars. Two larger ones alight with masses of the pink *Prunus triloba* fl.-pl. complete a very charming and satisfying arrangement.

The Princess Alice, Countess of Athlone, who opened the Exhibition on Wednesday, 1st inst., is responsible for the design of the garden carried out by Messrs. Gaze of Kingston-on-Thames. Arranged on two levels—both very considerably above the floor of the Annexe—many hundreds of tons of soil were necessary for its construction. There is but one entrance to this exhibit, but the exterior, which displays a Yew hedge surmounting a coursed-random garden wall, provides a welcome relief to the eyes after an inspection of the general effect. The Yew hedge, referred to, is singularly well carried out. It is not easy to produce a credible Yew hedge at an Exhibition, but Messrs. Gaze have done it. A large portion of this hedging is 8ft. high. One enters the garden up a flight of steps under lintels spanning two pairs of simple but elegant pillars and an arch of Yew. At top of the steps is a little paved garden with an oblong Lily pond with semicircular ends. The borders which surround it are filled with Forget-me-nots, blue Hyacinths, Murillo and William Copland Tulips, standard pink Indian Azaleas, Wistarias, blue Hydrangeas and *Prunus triloba*. A further flight of steps gives access to a turf path ending in a seat. On either hand are borders filled with plants similar to those already mentioned.

A blue garden designed by the Queen of the Belgians is carried out by Luff and Sons of Wimbledon Park. Enclosed by low York stone walls, this garden has for its central feature a square Lily tank and fountain. The surrounding banks are thickly carpeted with *Scilla sibirica*. Beyond these, again, blue Hyacinths are arranged which

do not altogether assort as to colour with the Scillas. Large quantities of other blue-flowered plants, notably *Cinerarias* and Forget-me-nots, are employed, until the total effect is a little overpowering. Separated from this exhibit [by one of the public ways, Messrs. Luff have a smaller exhibit which attracts by its fragrance. Here, massed on either side a fine wrought iron gateway, are banks of Magnolias, including the beautiful *M. stellata*, *Skinnias*, Azaleas and *Mezereons*, while a picturesque thatched garden-house serves as an office.

A Dutch firm, Messrs. C. B. van Nes and Sons of Boskoop, display, in the garden designed by H.M. the Queen of the Netherlands, masses of Lilacs, *Rhododendrons* and Azaleas belonging to the mollis and Ghent sections. Despite the well kept Box-edged gravel paths and the very beautiful vase which forms the central feature, one feels this exhibit to be massed banks of flowers rather than a garden. Probably Messrs. van Nes had not sufficiently appreciated that model gardens in such a setting must carry their own repose. Here is no helpful solid background of shrubs and trees such as in the countryside might justify such massed colour.

For H.M. the Queen of Norway, Messrs. R. Neal and Sons of Sevenoaks have fashioned a sunk garden, planted with pink and blue Hyacinths, Emperor Daffodils and Indian Azaleas of that deep rose shade which holds more than a hint of magenta. Here, again, the colour is a little overpowering.

Mr. Ernest Dixon of Putney has effectively carried out the idea of H.M. the Queen of Rumania. This is a restful little garden and the purple and orange shades which distinguish it are not overdone. Alas! close inspection reveals that most of the flowers are artificial. The principal feature of this garden is a sunken square, its retaining walls capped with purple *Aubrietia* and its swastika-shaped central bed filled with orange Wallflowers. Small Orange trees in vases complete the effect.

Messrs. Whitelegg and Co. of Chislehurst have, in addition to the garden designed by H.M. the Queen of Spain, a triangular rockery arranged on staging which displays many kinds of *Kabschia Saxifrages*, hardy *Cyclamens* and *Lenten Roses*. Their more important exhibit, said to be modelled on a garden in Seville, comprises a seat-surrounded fountain of typical Spanish design with Box-edged beds filled with Indian Azaleas, *Epacrids* and Palms. The effect is quaint and pleasing, though the central seats, as was, perhaps, to be expected in so small a garden, dwarf to some extent the rest of the exhibit.

Perhaps by contrast with the riot of colour elsewhere, Messrs. J. Waterer, Sons and Crisp's garden seems rather "flat, stale and unprofitable."

The yellow, which is its essential colour, is largely contributed by *Cupressus filifera aurea*. Golden shrubs are not exactly ideal for formal garden effects, especially those of an essentially informal habit of growth. The colouring was, no doubt, part of Lady Patricia Ramsay's design, but one could not help feeling how much more effective and how altogether charming this garden might be if relieved by more cheerful colour. A tiny circular lawn and a square pool with the corners taken off to make it eight-sided are pleasing features.

Messrs. R. Wallace and Co. of Tunbridge Wells have five miniature gardens on view. Four of these represent the gardening ideals of four children of our Royal Houses. Two are neat little formal gardens, but the space at disposal gives small scope for individuality or distinction. The other two are, respectively, miniature rock and wild gardens, both admirably carried out. The groups of Birches with admirably arranged colonies of Daffodils, etc., form a beautiful picture and display to advantage the art which conceals art. The contouring of the ground could not well be improved upon. The little rock garden is, in its way, equally good. It would be difficult to stage one more effective in the space at disposal. In another quarter Messrs. Wallace have yet another small garden, this time an Azalea garden aglow with all the pure and wonderful colouring obtainable in the mollis hybrids.

The garden designed by H.R.H. the Princess Mary is a rock garden carried out in a grand manner by Messrs. Pulham and Sons. It is staged against an effective back-cloth which enlarges the apparent size of an exhibit extending to 1,800 square feet. Large as is the exhibit, it is hardly large enough for the huge waterfall the firm have contrived, nor do the rocks bordering the fall look weighty enough for the margin of such a flood. No attempt has been made to set up a May garden at this season. The firm are to be congratulated on resisting the temptation to rely too largely on colour to produce effect.

Messrs. Allwoods display a border of perpetual-flowering Carnations; Messrs. William Duncan, Tucker and Sons show a model greenhouse with growing plants *in situ*; and Mr. H. D. Thompson of Adam Street, Adelphi, has a miniature hard green tennis court in his special (provisionally protected) material, combined with an exhibit which demonstrates the beauty attainable by the use of steps and paving. An exhibit by Messrs. Gilliam and Co. shows the value for garden-houses, walling and paving of the Somersetshire stone from the Bryscom Quarries. Messrs. T. Crowther and Son of Fulham have a fairly representative collection of garden statuary; Messrs. James Carter and Co. have a large collection of garden seeds and tools, as have Messrs. A. W. Gamage and Co.

A new and noteworthy exhibit is that of the J. P. Super-Lawnmowers, Limited, of Leicester. The machines, which are at present only in production in the 12in. size, are not inexpensive, but, mounted on ball bearings and driven by dust-free, sun-and-planet gears, and adjusted instantaneously without a spanner, they have every appearance of a workmanlike job and should prove a good proposition.

Also new, though this is by no means their "first time out," the Fibrex pervious flowerpots, shown by Messrs. Harvey, are sure to claim their share of attention.

Apart from the horticultural exhibits in the annexe, a few garden sundries are to be found in the main exhibition. Among these one noted the Slade movable frames and a display of Rito, the well known Molassine fertiliser. "Windolite," one of the most recent substitutes for glass in frames and sheds, is also on show.

In connexion with the Ideal Homes Exhibition the *Daily Mail* has thrown open, at Welwyn Garden City, a number of newly-erected houses embodying economical ideas both for construction

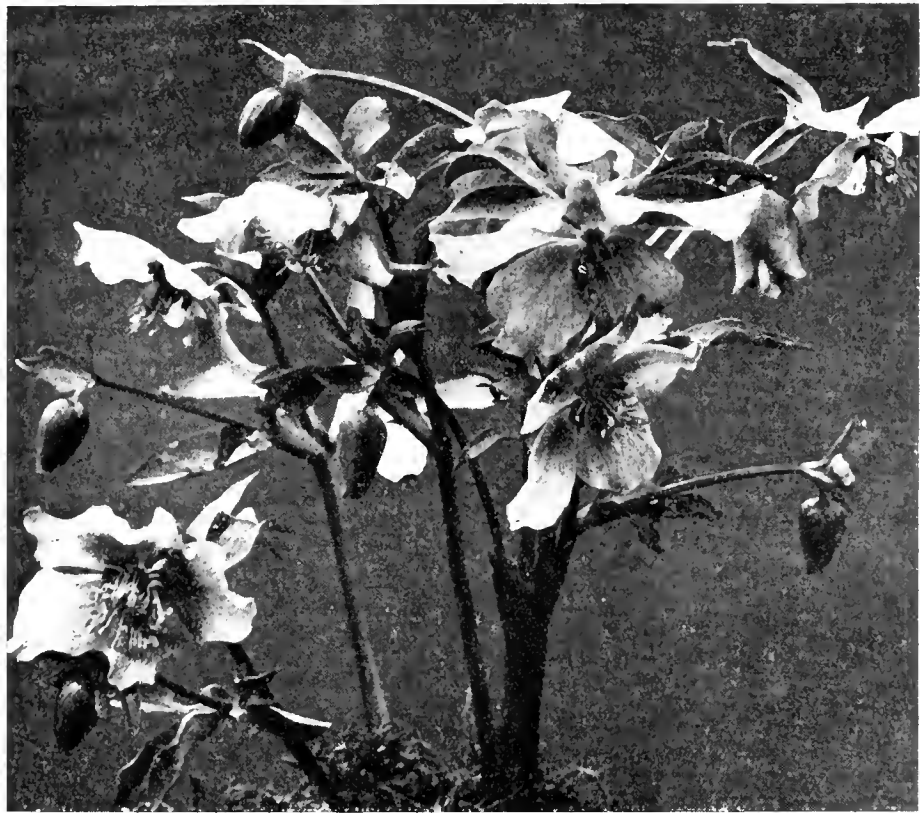
and upkeep. There is, however, little there at present to interest the garden lover, and the gardens provided are, truth to tell, far too small, especially considering the distance from town.

LENTEN ROSES

These quaint and charming flowers are ideal for the shady fernery or the Bamboo dell in a soil abundantly supplied with humus.

INSTEAD of bemoaning the fact that we have a cool shaded border facing north, on which the sun never shines, we should welcome it as a happy home for the lovely Lenten Roses, for these, with the addition of a few of the choicer hardy Ferns with their graceful lacy arched fronds for summer, provide attraction and beauty through the whole year. When the rest of the garden is bare and leafless

with purplish crimson and H.g. sub-punctatus, white, faintly spotted at the base of each petal. For flowering from February to April there is a host of varieties, many of which are rather similar, but the following will be found a desirable collection: H. Benary, white, heavily spotted with crimson on the inside; Dr. Moore, rose pink, with long stems; Duchess of Cleveland, lilac rose; Mont Blanc, very fine, pure white; punctatissimus,



QUAINTLY BEAUTIFUL. THE LENTEN ROSE HELLEBORUS ORIENTALIS.

and the fern fronds have turned sere and brown, the Christmas Rose steps forward and—despite the cold and short days—expands its pure white flowers. The type is one foot tall with large leathery foliage, but even finer and earlier than this is *Helleborus niger maximus*, which commences to flower in November and continues well into January. This is more vigorous than the type and reaches half a foot taller, while the flowers, though white inside, on the exterior are rosy purple. We are concerned to-day, however, with the later flowering orientalis varieties, and I merely mentioned the above as a means of extending the season over which we may cut lovely flowers, quite unprotected in the open air. The beautiful foliage is quite distinctive, while they embrace quite a wide range of colour. For flowering in January and February the following varieties should be chosen: H. abschasicus, with large deep crimson purple flowers; H. guttatus, white flowers spotted

rich purple, spotted inside with deeper coloured spots; and sub-junctatus, white. The species viridis, bright green, and its variety, purpurascens, dove grey, also flower at this season.

The culture is very simple; the less the roots are interfered with the better. Planting is best done in early spring and they have a strong preference for a rich turfy loam, so that it pays to make up a small border, a couple of feet deep, with this. Take care that they never want water, especially when planted close under a north wall, for, often enough, quite heavy rain does not touch the soil at all in such a position as this. Subsequent culture in following years consists in affording a good dressing, 3ins. thick, of old manure each spring, as soon as the flowers fade.

This is when the new roots are emitted and the top dressing serves the double purpose of feeding the roots and keeping them cool and moist through the summer.

H. W. CANNING-WRIGHT.

CORRESPONDENCE

A CURIOUS PLANT.

THE enclosed photograph may be of interest to your readers. It represents the rootstock of *Testudinaria elephantipes*. One can take one's choice between this name and the more readily spoken Elephant's Foot, Hottentot Bread or Tortoise Plant, as it is variously called. Though far from a readily procured plant, I have come across one or two good examples of this freakish thing in this country, and once had the good fortune to see a small batch of plants during the process of raising from seed. This is not at all a difficult matter once the seeds are obtained, and the best way to attempt it seems to be by making enquiries from friends in South Africa. Germination is fairly rapid in a temperature of 60° to 70°. They should not be interfered with while quite small. The twining stem should run to about 6ins. or 8ins. first before potting them off singly in small pots, using a compost of sandy loam and leaf-mould. Treatment as to watering, &c., is pretty much the same as for the Cacti, and the plants gradually increase in size from year to year until they produce a huge, woody tuberous rootstock marked like the shell of a tortoise. From the apex of this rises slender branching stems that—in strong specimens—attain a height of between 30ft. and 40ft., with heart-shaped leaves and small, bell-like greenish yellow flowers.—CROYDONIA.

A NOVEL POT PLANT.

THE fibrous section of *Begonia* is mostly associated with bedding out, I believe; but during the last two months I have proved their truly great worth as dwelling-house plants—and this discovery was made almost accidentally. Pricked out, but unwanted, seedlings of last spring's sowing were left in box and pan in a cold frame until, as nearly as I can remember, some time in October, by which time the foliage had taken on a lovely reddish hue, and the plants, obviously somewhat stunted, were doing their best to make a show of flowers. Instead of discarding them, as was threatened more than once, I took out a ball of several plants together and placed these in 4½in. and 6in. pots, in which the plants gradually improved in growth and flower until in December I tried them for house decoration. Two clumps in particular gave exceptional pleasure, as they were in the drawing-room in the same vases for quite six weeks, the position being a large window where good light was available, and this at midwinter—C. T., *Amphill*

THE EUCALYPTI.

A PROPOS of the note on page 46 of THE GARDEN by Walter Smyth, I thought the extract from a letter I received from Mr. G. Flemwell, the author of several books on alpine flowers, would be of interest at this present inclement season.

"... And now let me tell you of a Switzerland equally interesting and wonderful and beautiful, though not considered typical. I left Zermatt frost-bound and in snow; I left Brigue, mist and wind-ridden; Lucerne was enveloped in thick fog and rain; but directly the St. Gothard

apple-like fruit. And they are skating at Lausanne and at Arveyes! . . ."

I wonder if it is possible, with protection, in some of our sheltered valleys in the warmer parts of Cheshire to grow the Eucalypti, Camellias and Mimosa?—J. P.

PRUNING FRUIT TREES.

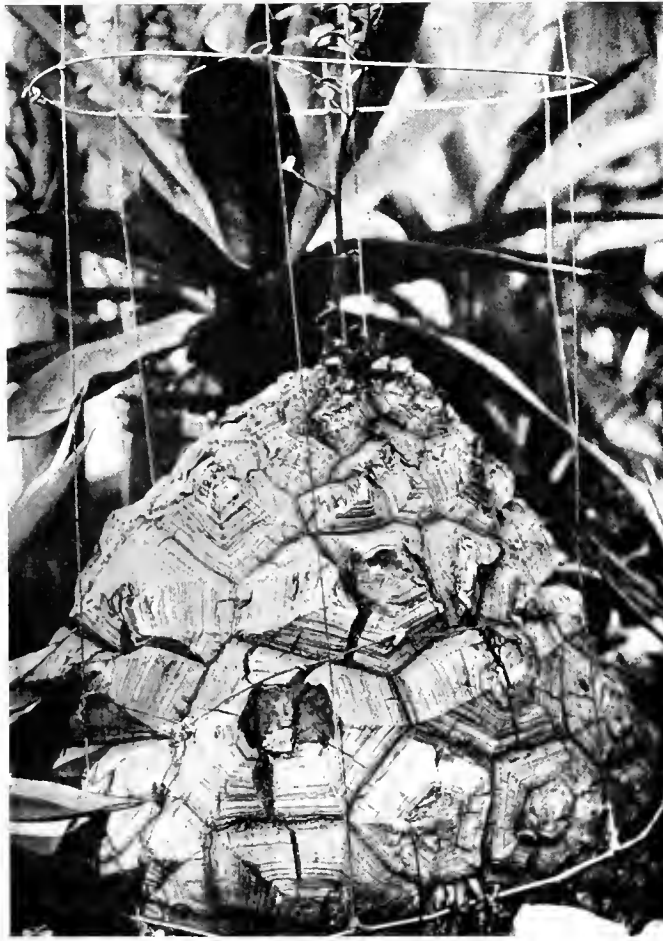
I HAVE read with great interest the articles on "Fruit Trees," and cannot but help agreeing with Mr. McCowan that had Mr. Pearson given a list of those kinds which, grown as pyramids, gave the best results, and Mr. Thomas done the same with those which, in his opinion, did best as bush trees, and the best distance to plant apart, their contributions would, indeed, have been of greater help.—W. MASON, *Wisbech*.

"PREPARED" DUTCH HYACINTHS.

IN writing of these "Prepared" Hyacinths I must say at the start that I am writing only of white Miniatures, which were obtained last year to take the place of Roman Hyacinths, which were so dreadfully dear that my firm—along with many others—thought it best to let these French bulbs severely alone until the growers were a little more reasonable in their prices.

These special Hyacinths are, as many of your readers are no doubt aware, first, small bulbs of two or three years' growth; secondly, they are lifted while still green, and are then stored in heated rooms for a certain time, which gives them an artificial ripening. This preparation enables one to force them into bloom with good results some ten days earlier than is possible with unprepared bulbs. Last season my firm had a number of these prepared Miniatures left, and to cut loss as far as possible they were planted in a greenhouse to produce cut blooms for the market. They were planted in November and were kept right through their growing time at about 50°, falling sometimes at night to very near the freezing point. The resulting crop has been really wonderful. The first blooms were cut January 31—quick work from bulbs planted as late as November—and the whole lot were cleared by mid-February. The spikes have been very good for such small bulbs; in fact, some have been nearly as large as those produced by first-sized bulbs, while out of some two thousand bulbs just *one* failed to flower! The whole crop has made very healthy and regular growth, and the flower stalks have been quite long enough for cutting, for which the smaller spikes are quite suitable. The scent is not at all overpowering; in fact, not very different from that of the Roman Hyacinth. The name of the variety is L'Innocence. It seems really surprising that people are still willing to pay about sixpence per bulb for Romans, while these prepared white Dutch Miniatures can be had for half that amount! To my thinking they are worth twice as much as the Romans, and they may, by early planting, be had in bloom by Christmas.

I have learned something by this little venture about the flowering of Hyacinths. It has always been thought necessary to place Hyacinths, after potting or boxing, out of doors under plunging material for many weeks before placing them in heat. Now with this surplus lot of bulbs we came to the conclusion that, first, the crop would not pay for much labour; secondly, that the bloom must be cut early to demand a ready sale. So we decided to bed them on a bench in the greenhouse without any preliminary outside or cold frame treatment, and the results could not have been better. A few pots of the very same Hyacinths were potted on August 18 and



THE REMARKABLE ROOTSTOCK OF TESTUDINARIA ELEPHANTIPES.

was passed, sunshine began to appear, and by the time Locarno was reached I was in summer heat and sunlight. Yet Locarno (thoroughly Swiss, though, of course, Italian-speaking) is only just on the southern side of those Alps where the Rhone Glacier nestles! and we are surrounded by those Alps' foot-hills! As the crow flies it is 'no distance'; yet in the garden of this Villa Miralto and at this present moment (December 14) there is an Orange tree bearing over a hundred Oranges, and by its side is a great Eucalyptus in full bloom and a Lemon tree carrying ripening fruit! Palm trees are everywhere (mostly *Chamaerops excelsa*, which is a weed here, seeding itself all over the place). Camellias are just coming into flower (we shall have a bloom or two for Christmas); the Mimosa is blooming; and the Japanese 'Kaki' trees still bear their orange

were placed in plunging material in a cold frame until the roots were at the bottom of the pot; they were then brought into the same house as the planted out bulbs, and they flowered about a week later than these, and were in no respect better. This seems to prove that the Hyacinth may be grown right along in a moderate greenhouse temperature without any cool treatment at all. The same cannot be said of Tulips or Daffodils; at least, I can speak with certainty of Tulips, for some which were tried last year in exactly the same way as this season's Hyacinths were, to put it mildly, not a success. They produced flowers of a sort, but in spite of shading, the stalks were almost non-existent, and the flowers were quite a failure from the cut flower point of view.

Those amateurs who have not yet tried these "Prepared Miniature" or "Dutch Roman" Hyacinths should make a note to procure some this autumn, and do not forget to ask for L'Innocence, as that cannot be beaten for growth, purity or delicate scent.—J. DUNCAN PEARSON, *Lowdham, Notts.*

THE NIGHT-SCENTED STOCK.

THIS is one of the supreme joys of the summer garden. I can never forget being taken out of doors one evening after dinner, at Balls Park, to smell the Night-scented Stock. A long and wide, partly-made and partly-filled, border had been sown with it. It was by far the largest patch of it that I have ever come across, and the scent of it that evening was prodigious. It is very seldom that it is possible for it to be grown on such a grand scale, for during the day the Night-scented Stock is one of the most forlorn objects possible. It looks as if it was all over with it, and anyone coming across a patch for the first time might quite justifiably root it up as "done for." But when evening comes!

How one would like to know what rouses it up! It cannot be a dance, or a card party, or a dinner, or some swell function or other. These are certainly powerful human stimulants, but they cannot apply to the vegetable kingdom. What is it, then? No one knows. Let us not worry about it. It is our part to be truly thankful that such a plant exists and that it is so easily grown and the seed is so cheap—even in 1922—to buy that there is no reason why a patch of it should not be sown not only in the large and stately garden of Balls Park, but also in the tiniest cottage garden on the Balls Park estate. Writing entirely at random, let me suppose 95 per cent. of gardeners know it; nothing like 95 per cent. grow it. Until as many grow it as know it, I trust a little space will be found in the columns of THE GARDEN at the beginning of every year for someone to sing its praises and to urge everyone to spend a few coppers on the purchase of some seed. Its present price is about eighteenpence, or less in some lists, per ounce. It would be difficult to spend a sixpence that would diffuse more pleasure than sixpennyworth of Night-scented Stock seed. Most catalogues call it, as is strictly proper, *Matthiola bicornis*. I had once an amusing query addressed to me after I had done my best to sing its praises. I suppose the Latin name is a bit frightening and we jub at it as anyone might do if recommended to buy *Cheiranthus* or *Callistephus*. This person was, however, converted and decided to buy. "But where could *Matthiola bicornis* be bought?" the person wrote. "Do you think I could possibly buy it in Paris?" Why Paris, I wonder? Let me say there is no need to go to Paris, or even to Sutton's, Carter's, Dobbie's, or that refuge of the seekers after rarities, Thompson and Morgan's. It would be a poor seed shop in a local town which

could not supply it, if wanted. Sow some of it every fortnight between April 1 and July 1, inclusive, if you can. At any rate, begin in April and go on as long as seed and spaces last.—JOSEPH JACOB.

THE RECORD OF GREAT DISAPPOINTMENT.

LIKE many others, the writer acclaimed the advent of *Primula Forrestii* to our British gardens. It seemed to be what we had longed for—a robust, healthy, beautiful yellow species which we might attempt in our gardens with a reasonable amount of confidence in its well-doing, and with every prospect of it giving us much satisfaction and real joy. But we have all been disappointed in its behaviour in our gardens in the conditions, say, in which *Primula japonica* would be exceedingly happy, or even in the drier border. We had some justification for hoping that it would be easy and delightful to us when it flowered and that it would prove a good hardy perennial. Its abundant, bold, healthy-looking leaves gave every promise of a satisfactory plant, and the accounts we heard of the big masses it formed in its own land afforded us some trust that it would be happy in these islands. But we forgot or deliberately overlooked the accounts which told us of the conditions under which it thrived in that native land. We were told that it came from the limestone cliffs of Yunnan, where in the hot sunny parts it flourished, and, not lacking in temerity, we planted it in borders or on rockwork, rashly hoping for success, disregarding all the while our heavy rainfall and our cooler sunshine. So we deserved what we got—rank failure and the loss of our plants. Some wiser mortals planted in the face of a wall garden and had a little—a very little—more success, and the writer well recollects seeing a plant in bloom which had been in the same place in a dry retaining wall for about two years and was condescending to live and bloom. But one swallow does not make a summer, nor does one plant of *P. Forrestii*, deigning to survive for a couple of years in a particular place, justify us in concluding that it will do anywhere under the same conditions. The truth is that there is little chance of success with it in this country unless in a sun-scorched limestone cliff or wall, where, practically sheltered from the winter wet, it has some prospect of surviving. But for this failing, so far as our gardens are concerned, it would be a worthy plant with its bold crinkled leaves, its good scape and its heads of sweetly perfumed yellow flowers. Alas that one has to say it!—as a garden plant it has even to give way to a good yellow *Polyanthus*, or, more attractive still, to that lovely and robust species of *Primula* which has more recently reached our gardens—*Primula helodoxa*. We may still desire to conquer the foibles—if we may call them that—of *P. Forrestii*, but we had better far devote our energy and our space to cultivating *P. helodoxa*, one of the brightest gems of the Primrose race and a splendid, yellow-flowered, healthy, obliging plant.—S. ARNOTT.

ST. FIACRE.

I WILL freely confess that my library is very much wanting in books that relate to the saints, and that was why I raised the query as to who St. Fiacre was and what he did to merit canonization. Mr. Jacob very kindly answers part of the question and leaves part of it unanswered, so that I am still ignorant of what the French gardeners' patron saint did that warranted the Church in raising him, an apparently poor working gardener, to so venerable a place. The only book accessible to me on the subject of saints is "Butler's Lives," and evidently so little was thought of St. Fiacre by the compiler of that

standard work that his biography does not appear in it. Where else shall I go to avoid astonishing my dear old gardening friends by my ignorance? Being the possessor of a French calendar is a very superficial means of knowing anything about saints, but on this subject that completes my stock. It would be interesting and instructive to know why my enquiring mind should put the saint and the cab together. There does not seem to be any logical sequence, and the operation would not enlighten me as to the reason why the good man deserved the honour of canonization. Nor does the fact that it has been my fate many a time to have to drive in a Paris *fiacre* help me towards a solution. Now I am going to get one in! Mr. Jacob says "it would appear to be a pure chance that his (the saint's) name is connected with cabs." Nothing of the kind; there is no chance about it, but a very good reason for it. The hired vehicle, commonly called a "fiacre" in French, was so designated because when they were first started the booking office (*bureau de location*) where they could be ordered or bespoken for hire was situated at the *Hôtel St. Fiacre*. You see there was a hotel named after him. But I still want to know what he did to merit canonization.—C. HARMAN PAYNE.

"THE GARDEN" AS A BOOK OF REFERENCE.

A PLAN which is even simpler than that mentioned by "J.P." (Cheshire) in the issue of the 11th ult. is my solution of the difficulty of keeping all copies of THE GARDEN or of selecting pages for binding, with the complication of indexing, or losing time in hunting up articles wanted. With due apology for the scant courtesy shown to the numerous articles of interest and expert knowledge, my method has for some time been to cut out those columns, or pages, or notes which I am likely to wish to refer to in future, and slip them into an ordinary alphabetical file, under the most appropriate letter, for easy identification when required. (Some thought is necessary to decide on the best index letter of a subject.) It is surprising how evenly the strips are distributed over the file; but if one letter gets crowded one can sub-divide with loose sheets in that division. Each of us would probably find a different compartment to hold the place of honour in the file.—A. H. B., *Old Hill, Staffs.*

A LOVELY BASKET PLANT FOR THE CONSERVATORY.

THAT a deal of misconception exists to-day as to the actual needs of *Achimenes* is evident in the fact that most people still look upon them as plants fitted only for growing in a stove house, and this idea has been perpetuated for years; so much so, that in few greenhouses are they to be found. But beyond a little extra warmth in which to start the tubers, nothing more than the temperature of an ordinary greenhouse is required to grow these beautiful flowering plants; indeed, from June onwards no artificial heat need be applied. The present will be found a suitable time to start the tubers, and four or five should be planted in a pot made up of two parts loam to three parts leaf-mould and coarse silver sand. When 2ins. or 3ins. of growth have been made, the little plants can then be removed to separate pots or planted in and around a basket—once a favourite method—where they are seen to advantage. *Achimenes* delight in a moist atmosphere of about 55°, and, started under such conditions, they soon make progress. As greenhouse plants they are deserving of wider culture, and it is to be feared that prejudice has militated against them.—CLAREMONT.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Early Potatoes.—On a warm, sheltered border a start may now be made by planting a few rows of one of the recognised early varieties. The tubers will be nicely sprouted in readiness if they were cut up in boxes as advised. For this early crop 18ins. to 24ins. will be enough from row to row allowing the sets 10ins. or 12ins. from each other. It will prove beneficial to the crop if, after drawing out the drills in readiness for the Potatoes, a liberal amount of well decayed, flaky leaf-soil be strewn along them before dropping the sets into position.

Peas.—Where such can be arranged there is no doubt that early Peas are better if sown in boxes and then transplanted as soon as strong enough, provided soil and weather are favourable. Whether such is practised or not the present time is suitable for sowing outside to serve as a succession or to make a start if not yet done. Early staking of Peas is at all times essential, and this is especially true of early rows, for it helps to break the cold winds from the young plants.

Artichokes.—Tubers of the Jerusalem variety should be planted as soon as possible, allowing a space of about 2ft. between the rows. Should any portion of the previous season's planting be still in the ground, lift them and store in sand to be drawn upon as required. The Chinese variety *Stachys tuberifera* may also be planted now in rows about 15ins. apart. The small tubers of this variety can be quickly dealt with by using a dibbler for the planting.

Leeks.—A liberal open ground sowing should be made now to provide what will probably prove the main batch of plants. At least one if not two more small sowings could be made later. Plants from a late sowing come in most useful sometimes when the earlier-sown lot are apt to have seeding tendencies.

The Flower Garden.

The Rock Garden.—Select a fine day and when the soil is in good workable condition prick over the crevices between and around the plants. At the same time take steps, if necessary, to restrict the coarser-growing plants. Stocks of plants raised for adding to collection or for filling up vacancies may now be gradually removed to their permanent positions. Ofttimes an added interest may be given to the alpine quarter by the introduction of a few annuals, and a list of those suitable is frequently given in the general seed catalogues so often advertised in these pages.

Chrysanthemums.—An increase of these accommodating border plants may readily be arranged for now. Dibble the young shoots into pans of sandy soil and keep them fairly close in a temperature somewhere near 50°. When rooted the subsequent treatment will depend to some extent to what purpose they are allotted. Where they have eventually to succeed an earlier-flowering plant they must either be grown on in pots or planted out in a reserve plot until required, but where it is possible to place them at once in flowering quarters so much the better, as valuable time and labour are saved for other purposes.

Pampas Grass.—The old plants or clumps require an annual clean-over and trim-up, and this should be seen to now, making also any further plantings contemplated. A few well placed groups of this grass are a great feature during the autumn.

Kniphofia.—From now until the end of the month is a suitable time to give these a trim over, and also for the lifting, dividing and replanting of them. These handsome plants arrest attention almost anywhere, but particularly so when boldly grouped. The best results are obtained when they are planted in a cool yet well drained soil.

The Hardy Fruit Garden.

Fruit Borders.—The pruning and planting operations having been finished, all the borders and plantations should be forked over. This will make more easy the passage of rain, sun and air, and at the same time give a finished appearance to the above operations. It may be necessary, particularly on light soils, to follow this work up a little later with a top-dressing of well rotted manure broken up finely. In the case of newly planted trees a more strawy mulching is suitable, and will be found of immense help in maintaining the soil for the roots in an even

state of moisture as the days lengthen and the sun gains in power and drying effect.

Fruit Under Glass.

Vines in flower require a somewhat drier atmosphere, but it is not necessary or even beneficial suddenly to cut off all the atmospheric moisture. For free setters, like Hamboro's and Foster's, a night temperature of 60° is enough, allowing a rise of 10° to 15° during the daytime with a nice circulation of air. As an aid to setting give the Vine rods a sharp tap about 10.30 a.m. so that the caps may be removed and pollen liberated to do its work.

H. TURNER.

(Gardener to the Duke of Northumberland)
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Broad Beans.—Sow these in quantity for the principal crop. Although accommodating in its habits and thriving in most situations, the Broad Bean rewards generous cultivation by producing heavy crops of fine quality. Sow in double rows 3ft. apart, allowing about 8ins. between the seeds in the row. Long-pod varieties, such as Harrington Windsor, Monarch Long-pod and Austin's Evergreen are commendable sorts to sow at this time.

Onions.—Sow now in the open in rich, well drained ground. If possible, give a liberal surface dressing of wood-ash or burnt refuse. Where the soil is light make firm by treading, afterwards raking the surface until a fine tilth is obtained. Reliable varieties are Ailsa Craig, Cranston's Excelsior, James' Long-keeping and Blood Red. Sow in shallow drills 12ins. apart.

Early Short Horn Carrots.—Sow these in shallow drills 10ins. apart on a sunny border. Choose a day when the ground is thoroughly dry, so that it may be well broken up and thus ensure plump little roots of the highest quality.

Celery.—Make a first sowing of an early variety in boxes containing a rich fine soil. Germinate in a mild hotbed or warm pit and keep fairly moist.

Raising Herbs.—Where it is desirable to replenish or form a new herb border it is found advantageous in many cases to raise a number from seed. These often prove more vigorous than those raised from cuttings or small divisions. Perennial herbs should be sown now in boxes and placed in mild heat, so that well established plantations may result before the end of summer. Old favourites, such as Mint, Tarragon and Lemon Thyme are grown from division of the roots, and may be successfully propagated in this way during the latter part of March.

Potatoes.—Plant first early sorts immediately the ground is dry and mild weather prevails. Select a warm, sheltered spot for this crop. Scatter leaf-mould and any other light, warm material along the trenches when planting. This gives the roots a satisfactory start and lays the foundation of a profitable crop.

Tomatoes.—A sowing to provide plants for the main crop should now be made. Sow thinly in pans of light porous soil and germinate in a temperature of 60° or 65°. Transfer the seedlings into small pots immediately the second leaves are formed. Keep the young plants as near to the glass as possible so that short-jointed, stocky growth may be ensured. When watering use tepid water and guard against draughts, as young plants of the Tomato are readily blighted when subjected to any sudden change of temperature.

Fruit Under Glass.

Melons.—Raise another batch of plants in readiness for planting out on hotbeds next month, and also a suitable number for successional crops in pits. Keep young plants growing freely, never at any time allowing them to become starved or pot-bound during the early periods of growth.

Strawberries.—Advance further quantities from the frame to the forcing pit, taking care to see that the foliage is clear of vermin and the drainage of the pots is in thorough working order. Earlier batches in bearing should be stimulated by occasional waterings of liquid manure and soot-water varied at times with an approved fertiliser.

The Flower Garden.

Hyacinth candidans.—Plant bold groups of this in the shrubbery border. It may also with advantage be planted in large beds in conjunction with autumn-flowering Gladioli or Montibretias. With its drooping, bell-like flowers it also makes an effective companion to the stiff but otherwise brilliant Tritoma.

Gladioli.—Plant these in the open where they are to flower. On heavy land the addition of some leaf-mould and sand gives the bulbs a more generous start. Where the plants are wanted for summer bedding the bulbs should now be potted up and grown in a cool frame until required.

Dahlias.—Start the roots of these now in a warm pit so that a good supply of cuttings may be obtained. Should part of the bed in a Melon-house be available, it will suit admirably. Pack round the roots with old potting soil. Spray overhead occasionally and thus induce the tubers to break freely.

JAMES McGRAN.

(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock.

CONSERVATORY AND GREENHOUSE.

Daphne odora (syn. *D. indica*), in common with other fragrant plants, is a great favourite although by no means so popular as it deserves to be. This is due no doubt to the fact that it is by no means easy to keep in good health for any length of time when cultivated in pots. If planted out in a well drained border in a cool conservatory it usually grows freely and keeps healthy for a number of years. In Devon and Cornwall it is a favourite plant, and one frequently sees fine, large specimens outdoors planted against warm walls. As grown by the trade it is usually grafted on roots of *Daphne Mezereum*. It is considered a difficult plant to propagate by means of cuttings, but, personally, I have never experienced any difficulty in rooting short side shoots taken from healthy plants. Cuttings may be inserted now in pots of sandy peat, standing them in a close case in a cool house until they callus. If they are then placed in a case with slight bottom heat they soon produce roots. The potting compost should consist of half good medium loam and fibrous peat, with enough coarse sand to keep the whole porous. Do not overpot, and water carefully at all times, especially during the winter months.

Freesias are usually grown from corms potted up during August and September. It is not generally known that they may be raised from seed and flowered the same season. If seed is sown during this month the resulting plants should, if well grown, flower next November. Here I refer to *F. refracta alba* and *F. Leichlinii*. The flowering of the coloured varieties is more uncertain. The young seedlings do not readily recover from transplanting, so it is, therefore, best to sow them directly into their flowering pots, 48-sized pots being large enough, the seedlings afterwards being thinned out to the required number. Germination may be hastened by standing the pots in a house with a temperature of 55° to 60°. When the seedlings are well up they are best grown in a cool, low house and kept well up to the roof glass. As soon as they have well filled their pots with roots they should be fed with dilute liquid manure and soot water.

Sparmannia agriceana is an old inhabitant of gardens, being introduced during 1790, but to-day it is by no means commonly seen, which is rather surprising when one considers that it flowers more or less for several months during winter and spring. Apart from its beautiful, white flowers, which are so freely produced, this plant is interesting, as the stamens are irritable, gradually opening outwards when touched. It is easily propagated by means of cuttings, and grows quickly and soon makes a large specimen. Trained as a standard some 3ft. to 4ft. in height, it is very beautiful. After flowering the plants should be pruned hard back, and from the beginning of July until September should be stood outdoors in a sunny position. This ripens the wood and ensures free flowering. It is probably because this is not done that one hears frequent complaints that this fine plant does not flower freely. There is a double-flowered variety, but it is not so beautiful as the type.

Aloysia eltiadora (the lemon-scented Verbena).—This fragrant plant is a general favourite. It should be pruned back now and, as it starts into growth, repotted, or large specimens should have several inches of the surface soil removed and

replaced with a top-dressing of fresh compost. This plant grows with great freedom when planted out, and is excellent for a cold conservatory, as it is hardy over a great part of the country if planted at the bottom of a wall and given some slight protection. Many cultivators find this plant difficult to propagate because they try to do this during the autumn, whereas it roots in a few weeks from soft cuttings taken from plants grown indoors during the spring.

Begonias.—There are numerous species and varieties of greenhouse Begonias which between them keep the greenhouse gay, more or less, all the year round. *Begonia gracilis* is a very beautiful species, the tubers of which should be started now in slight warmth. This plant is also known as *B. Martiana*, and must not be confused with

a section of *B. semperflorens* to which Continental growers apply the name *gracilis*. Other beautiful tuberous-rooted species that should be more generally cultivated are *B. Davisii* and *B. Pearcei*, both of which played an important part in the present-day race of tuberous-rooted Begonias, all the yellow-flowered varieties coming from *B. Pearcei*, and these even now show traces of its beautiful foliage. *B. fulgens* and *B. Baumannii* are also beautiful species. *B. Evansiana* is a herbaceous species, almost hardy, and if started now is very useful for autumn decoration of the conservatory, as also is the old garden hybrid *B. weltoniensis*. *B. Dregei* and *B. Sutherlandii* if started now will flower throughout the summer and autumn. J. CURTIS.

Royal Botanic Gardens, Kew.

THE TURNIP GALL WEEVIL

Follows an account of a serious pest which attacks the Cabbage and its relatives. Preventives, as far as known to date, are indicated.

THE Turnip gall weevil (*Ceutorhynchus sulcicollis*) is a snout-beetle which, as its name indicates, causes galls on the roots and bulbs of Turnips, Swedes, Rape, various forms of Cabbage, Mustard and some cruciferous weeds, such as Charlock. Probably the most serious injury is caused in the case of Turnips and Swedes, the other cultivated *Brassicæ* suffering only occasionally, except when grown under garden conditions. Evidences of the presence of the pest are exceedingly common all over the country, some galled plants being found in most Swede and Turnip fields. John Curtis (*Farm Insects*, 1859) states that, except for the symmetry of the bulbs being affected, the plants are in no way injured by the presence of the insects. This may have been so in the cases which came under his notice, but the injury is often very

severe, particularly where young plants are attacked, for, as F. V. Theobald (*Rept. Econ. Zoology S. E. A. C., 1906-07*) points out, "It is not so much the deformed, galled, necessarily stunted growth of the Turnip or Swede that is, however, of such vital importance; it is the too frequent attack on young plants when all future growth is stopped by these maggots that makes the Turnip gall weevil of

heating or may send them into flower, while the development of such plants as Broccoli is often seriously checked.

LIFE HISTORY AND HABITS.—If a galled plant be examined galls varying from the size of a pea to the size of a hazel-nut may be seen; often they run into each other, with the result that mis-shapen masses are formed about the lower portion of the bulb, or turnip-like swellings may be found on the tap root or stalk of the Cabbage (Fig. 1).

The galls are found to contain whitish-yellow legless grubs (Fig. 2). A gall may be single chambered and contain one grub, or several chambered and contain usually from four to five grubs, the number of grubs present depending on the extent of the infestation. Sorauer (*Handbuch der Pflanzen Krankheiten*) states that there may be as many as ten to twenty-five together; in a specimen of galled Savoy, recently examined, twenty-nine grubs were located. The whitish grubs, measuring at maturity from 5mm. to 6mm. (say, 1.5in. to ¼in.) are found lying in a curved position in the little chambers they occupy. They are wrinkled into numerous folds and are segmented, being clothed sparsely with short hairs or bristles which facilitate movement. The head is proportionately small and very pale brown; it bears two strong pointed jaws with distinct dark brown tips.

These grubs can be found all through the winter until about February, when they eat their way out of the galls and, entering the soil, construct small earthen cocoons in which they pupate. The quiescent pupæ (Fig. 3) are at first whitish, and through the outer skin the outlines of the adult insect can be seen. Towards the end of the pupal period the colour becomes darker, the eyes being the first to be distinguished, followed by many of the limb joints, which can be distinctly seen. Finally the pupal coat splits and the perfect insect proceeds to extract itself from its folds, ultimately appearing above ground as a black and greyish weevil (Fig. 4). This adult insect is about 3mm. (¼in.) long and is black with scattered grey and whitish scales; the underside is lighter in colour. The head is prolonged into a snout or rostrum, which bears the elbowed headfeelers or antennæ. The thorax is rather coarsely punctured and has a central groove and two small lateral tubercles. Its legs are entirely black.

Shortly after emergence, mating takes place and egg-laying goes on from May onwards. Theobald (*op. cit.*) states that the adults appear very irregularly from spring to early summer, and that they feed in the flowers of various

cruciferous plants. The eggs are laid by the female in small holes bored into the tissue of the stem below the surface of the soil, one egg being deposited in each hole. From these eggs hatch out the minute grubs, the feeding of which sets up irritation, resulting in the formation of a gradually enlarging gall. In the centre of this gall the larva lives and feeds by boring shallow holes into the tissue in various directions. In summer-time the length of larval life may be about four weeks, but this period lengthens out as winter draws on.

So far, little has been done in connexion with the control of this pest. As far as natural control is concerned, birds are undoubtedly one of the most important factors in limiting it, for Curtis mentions that "partridges are very fond of the maggots, and that is undoubtedly one reason for the Turnips being so attractive to these birds; they are there under cover and run about in search of the galls to pick out the hidden maggots." Theobald, also, refers to rooks as "picking at the galls and taking the maggots." In an infestation



Fig. 2.—The larva, magnified five diameters.

Fig. 3.—The pupa (x 6). Fig. 4.—The imago of the Turnip gall weevil (x 6).

on Cabbage that recently came under the writer's notice, it was found that where the stumps were pulled and left exposed on the ground many of the galls were pecked open by blackbirds and thrushes.

Where Cabbage is attacked pulling and burning the stumps have been advocated. In practice the burning of Cabbage stumps is a most difficult proceeding, and exposure to birds would probably be found satisfactory and far easier. Where poultry could be run on the ground after the crop has been cut and the stumps pulled, it is likely that in foraging they would destroy a considerable percentage of the grubs. When planting out Cabbage, a mixture of soot and lime, or of soot, lime and ashes, has been found to give some relief by acting as a deterrent. The mixture should either be dibbled in with the plants or else scattered round the plants and pricked in lightly. Where a crop of roots is only slightly attacked feeding the bulbs to sheep or cattle will probably check the pest quite effectively. If the crop is badly attacked, feeding it off with sheep would be helpful in that some of the grubs would be eaten and others trampled in. If this is followed by deep cultivation it will make matters more secure, and by the time roots are grown there again, in the course of the rotation, the land would be comparatively free from the pest. Theobald mentions that a good dressing of soot over Turnips and Swedes, soon after germination, is often beneficial as a deterrent.

Since the weevil will form galls on various cruciferous weeds, it is important that cleanliness of culture be observed, for weedy headlands and waste ground generally form a source of infestation.

Judicious rotation of crops is another important factor, since, if crops liable to attack follow each other or occur in adjoining areas, there is a great probability of their being attacked. Thus with this, as with many other pests, the best means of control will be found to be judicious manuring, a good rotation, hygienic methods and the other factors which constitute clean husbandry.

HERBERT W. MILES, N.D.A., F.E.S.



Fig. 1.—Stem of an infested Savoy.

such importance to the farmer." To the private and market gardener, too, the loss due to attack is important, for the attack at the roots of Cabbage and Savoys often prevents

THE FOOL-PROOF ALLWOODII

IN these days of high wages and autocratic employes the single-handed gardener, or the employer who has to rely upon the services of one man to keep in order a garden which calls for two, begins to look round in the hope of filling up large spaces of unoccupied territory as cheaply and as effectively as possible.

A plant, therefore, which will give a glorious display over a long period is useful as a "cut" flower and, moreover, which possesses a delicious fragrance, will be welcomed by countless thousands of gardeners at the present time. Coupled with these virtues the fact that the plant is the hardest and easiest of all plants to grow, requiring as it does no attention for two years after it is once planted into position, should make its appeal to all lovers of a beautiful garden at a small expense.

Like most keen gardeners, when I come across a good thing, I am not happy until I have passed it on to others, so I feel that this new race of hardy garden plants which has been raised and developed by Allwood Brothers, the Carnation specialists, of Haywards Heath, Sussex, must no longer remain unknown to readers of this journal. I must confess that the name given to this new and delightful flower frightened me. *Dianthus Allwoodii* is the terrifying name which it will carry down to posterity. Those two 'i's at the termination of the name of the brothers Allwood will give a wrong impression to gardeners who are lovers of hardy plants. It is as bad as a child's parents christening the poor unfortunate "Clarence." I know all about that, because unfortunately I possess that Christian name. Such a name may be all right if the object of the bestowers was to make the boy grow up to fight his own battles. Nobody could go through his school life with a name like that without at least one fight per day. However, that is beside the point; but for some reason "ii" on any garden plant-name always conjures in my mind's eye something which has to be kept in heat and cotton-wool.

Shakespeare is credited with having written, "What's in a name? A Rose by any other name would smell as sweet," and *Allwoodii* might be substituted for the word "Rose" to prove that the poet knew what he was talking about.

I suppose if any gardener were asked to give his opinion upon the hardest, most easily propagated, fool-proof, sweetest-smelling hardy plant, he would plump solidly for Mrs. Sinkins Pink. For is it not hardy, fool-proof, and all the rest of it? A garden without a clump of this good old variety somewhere about is incomplete. Why, even people who have never done any gardening in their lives know it by sight. Their faces lighten, and a smile breaks upon their lips as they sniff the fragrance in the air, while the "I told you so" look comes into their eyes when they exclaim "Mrs. Sinkins" or more generally "Mrs. Simpkins!" In the near future they will substitute "Allwoodii."

Mr. Allwood himself informs me that *Dianthus Allwoodii* is one of the hardest of known plants; in fact, in his own words, it "has the constitution of a Shetland pony." It grows and increases in exactly the same manner as a Pink and requires similar treatment; but, unlike the Pink, which blooms for some three weeks in the summer, *Allwoodii* flower perpetually from early spring until quite late in the autumn. This long flowering period is probably inherited from one of the parents, for the *Allwoodii* is half Pink and half Perpetual-flowering Carnation; the flowers and habit of growth resemble the latter.

Of course, like most other plants, *Allwoodii* flourish best in an open sunny position, but they

are such accommodating plants that they will bloom anywhere except in complete shade. They are ideal as an edging when grown down the sides of a crazy or other path; in rockeries, banks or other dry positions they are equally at home. In fact, I am not overstating the point when I say that they will grow anywhere. Nor are they exacting as to soil; heavy, light or sandy, up they come smiling every time.

Early spring or autumn is the best time to put out the rooted cuttings from 3in. pots. If an unbroken edging is desired quickly, the plants may be put out at a distance of 6ins. to 10ins., but if time is no object, 1ft. or 18ins. is permissible. At such distances the plants may be left for two years without further attention, in which time they will probably meet and require to be propagated by means of layers or cuttings.

This new race of Carnation-Pink must not be confused with the old garden Pinks. The latter only bloomed once in a season, were poor in shape, and had it not been for their delicious fragrance would never have been tolerated. *Allwoodii* possess all the virtues which the old Pinks lacked. Colour, form and scent are now obtainable in these hardy plants which were previously only met with in the greenhouse varieties.

It will be seen that in *Allwoodii* we have an entirely new race of plants; no trouble and fool-proof. Plants which anyone can grow, and which can be increased with the ease and rapidity of the old garden Pink. Gardeners who have large beds of standard Roses and who previously grew *Violas* as carpeting plants beneath them might with advantage give these Carnation-Pinks a trial. Being shallow-rooted, while *Roses* are deep-rooted, one does not combat the other in the search for food and, unlike the *Viola*, which is rather a lover of moisture, the *Allwoodii* will flourish no matter how dry the season. In window-boxes or lawn vases they will give a continuous show of bloom from May to October. Even in winter their bright blue-green foliage is decorative.

In a bed or as an edging plant there is nothing which will give such a show for so little expense. In full bloom the bed or border is a drift of indescribable loveliness and perfume. Large plants may be lifted in the autumn and potted up, the plants being afterwards placed in a cold frame or greenhouse for winter blooming. A free circulation of air at all times should be allowed and the plants protected from frost.

Propagation is the easiest thing in the world, as *Allwoodii* root so easily from cuttings, pipings or slips in the usual way of propagating Pinks or Carnations. Cuttings should be rooted in July and August in almost pure sand, the plants being protected from strong sun and kept moderately moist while rooting. In about four weeks they may be potted up into 2in. pots or planted direct into position in the garden. When established the plant should be broken off at the sixth pair of leaves above the soil, otherwise the growth will quickly produce a single spray of bloom instead of making a bushy plant. Being of a dwarf habit, they require no unsightly sticks or ties, and should be allowed to grow away naturally after stopping. This advantage will be appreciated by anyone who has spent a morning among the old border Carnations. C. P.

A Booklet for the Beekeeping Beginner.—Messrs. Taylor's little eight-page booklet* should be invaluable to that very numerous class of

*How to begin Bee Keeping. Published by Messrs. E. H. Taylor, Ltd., Welwyn, Herts. Price 3d.

garden owner who wishes to keep bees not only as an interesting and profitable hobby, but for the service they render in ensuring the fertility of their fruit trees. It is to be feared that many a would-be beekeeper has been deterred from taking up apiculture by reading an appliance-maker's catalogue. These productions, like books on animal or plant diseases have rather an overpowering effect upon a novice. This pamphlet, then, which shows concisely how few appliances are really necessary to the beginners, how these few should be employed, and the simplicity of it all, should be of real service.

A Charming Rose Species.—*Rosa macrophylla*, though related to *R. Moyesii*, is at any rate, in the typical plant, very distinct from it in appearance, though it bears similar bottle-shaped fruit. Their curious appearance is produced by the persistent sepals forming a crown which swells out beyond the narrowed pip of the fruit proper. A rather prickly shrub, it has much the same stature as *R. Moyesii*, but the leaves are usually more than double the size, paler in colour and downy beneath. The flowers, too, though deeper than most species, are much more ordinary in colouring. Many forms closely related to this species have been introduced of late years. This is among the most desirable of Wild Roses.

A Trailing Coleus.—A *Coleus* that is ornamental all the year round is no means a plant to neglect. *Coleus Rehneltianus* carries out this programme to the full. Nay, more, for it chooses winter as its flowering season, and right away from autumn to late spring smothers itself with lovely light blue flowers. The habit is close and creeping, with leaves about 1in. in diameter, red brown in colour, strikingly edged with green. When the growths become covered with the dainty light blue flowers the plant is at its most attractive stage, and in addition to its appearance, advertises its presence by a delicious honey-like perfume. While a useful plant for growing in small pots to edge the staging, it is most beautiful, when thickly planted in hanging wire baskets, for suspending from the roof as the close, compact growth soon converts these into perfect balls of beauty, especially in winter, when first-class basket plants are by no means too plentiful. Stock can be obtained by sowing seed in brisk bottom heat at almost any period of the year while—once a number of plants is secured—further propagation is most readily carried out by means of cuttings struck in a propagating case in sandy soil. Look well over your seedlings before deciding which to retain for purposes of increase, for the plants vary in the depth of colour as well as the edging. The plants might well be given a trial outdoors, for there is but little doubt that they would form an ideal edging to beds of brilliant summer flowers.

FORTHCOMING EVENTS.

March 13.—United Horticultural Benefit and Provident Society's Annual Meeting.

March 14.—Royal Horticultural Society's Fortnightly Meeting (two days). Lecture at 3 p.m. by Dr. A. B. Rendle on "Plants of Interest in the Day's Exhibition" (on the first day).

March 14.—Meeting of those interested in proposed National Daffodil Society at R.H.S. Hall at 4 p.m.

March 16.—Meeting of the Linnean Society of London at 5 p.m. Wargrave and District Gardening Society's Meeting. Manchester and North of England Orchid Society's Meeting. Conference on "The Utility Small Garden" at the Ideal Home Exhibition at 3 p.m.

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12 Sunbeam Poppies, fine for vases	5
6 Aconitums, in 6 distinct varieties	4
6 Anemone Japonica, in 6 distinct varieties	4
6 Aquilegia (Columbine), in 6 distinct varieties	4
6 Centaureas, in 6 distinct varieties	4
12 Campanulas, in 12 beautiful varieties .. 9/- and 12/-	12
9 Chrysanthemum maximum, in 6 vars. for cutting .. 5	5
12 Erigerons, in 6 varieties, beautiful blues	7
4 Galegas, in 4 distinct colours	2
6 Hemerocallis, in 6 distinct varieties	4
6 Heucheras, in 6 distinct varieties	4
12 Iris Germanica, in 12 distinct varieties .. 8/- and 12/-	12
12 Pyrethrum, gorgeous singles and doubles	9
6 Rudbeckias, in 6 distinct varieties	4
4 Sidalceas (Mallow Pink), distinct	3
6 Veronica, in 6 varieties, distinct	4

Collections of Alpine and Rock Plants.

12 Crazy Paving Plants, distinct	9
6 Achilleas, distinct	4
6 Arabis, distinct	4
6 Arenarias, distinct	4
12 Aubrietias, fine varieties, distinct	8
12 Campanulas, distinct	8
6 Cistus (Sun Roses), distinct	5
6 Dianthus, distinct	4
6 Erigeron (Alpine), distinct	4
6 Gentians, distinct	6 - and 8
3 Globularias, distinct	2
4 Gypsophila, distinct	2
12 Helianthemums (Rock Roses), distinct	8
3 Helichrysum, distinct	2
6 Hypericum, distinct	4
3 Iberis, distinct	2
12 Lithospermum, Heavenly Blue	10
6 Enotheras, distinct	4
6 Phlox, Alpine, distinct	4
6 Potentillas, Alpine, distinct	4
6 Primulas, distinct	4
12 Ramondia Pyrenaica, large rosettes	10
12 Saxifragas, Silver	9
12 " Mossy	8
6 " Cushion	8
12 Sedum, distinct	8
12 Sempervivum, distinct	8
6 Silene, distinct	4
12 Thymus, distinct	8
12 Veronicas, distinct	8
6 Violas, Alpine, distinct	4

All above Alpines are strong stuff from Pots.

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It is credibly reported that the leading Rose-growers, or at any rate some of them, realising the damage that has been done by unripe Dutch Roses, procured to replace a shortage, failing to survive the first winter, are going henceforward to guarantee their plants to be grown in Great Britain. Whether the non-survival of the "Dutchmen" be due to too early lifting and consequent "sweating" in transit, as some Dutch authorities incline to believe, or whether their failure be due to some other cause is of comparatively little moment. The move to supply British-grown trees is on every ground to be approved, and it is greatly to be hoped that the suggested guarantee will come to be generally adopted by reputable firms.

Sow Thinly.—The nurseryman might be thought to have every temptation to urge customers to sow thickly. Whatever the temptation all reputable firms with one accord recommend thin sowing and lavish thinning-out, yet every year there is far more Pea and Bean seed, for example, wasted by over-thick sowing than need legitimately be employed at all. In a few weeks' time rows of young Peas almost as thick on the ground as Mustard intended for salading will be noticeable in all directions, nor will they in the majority of cases be thinned out. It is hopeless in such circumstances to look for a good crop. What Peas are produced are seldom of first-rate eating quality, and the rows are productive for a very short time. No maincrop Peas should average less than 4ins. apart from plant to plant in each line of a wide double row, and in the case of exceptionally strong and bushy varieties, such as Gladstone or Autocrat, 6ins. between the plants is not excessive. If the ground is in good condition there is no occasion to sow much more thickly than the plants will ultimately be wanted to stand, but the case is, naturally, different in early sowings, where a certain loss must be anticipated and allowed for. Seeds sown henceforward will not come under this category, however, and there is no occasion whatever for thick sowing. The same thing applies to Sweet Peas, but since their flowering season should be prolonged, thin sowing is, if possible, even more desirable. Six inches between plants is amply close enough for cut-flower and garden decoration. The exhibitor,

of course, grows them more thinly still. Eight inches between Broad Beans in double rows, 8ins. between the lines and 2½ft. between the double rows are good distances, but some good gardeners prefer to space the double rows further apart and take a catch crop of, perhaps, Lettuces from between them. Probably flower seeds, notably hardy annuals, are more persistently sown too thickly even than vegetable seeds. They should be sown so thinly that the surplus ones may be withdrawn without damaging those which are to be left. Ultimately most annuals should be spaced about one-half their full height apart, but this is only a general rule. Such spreading sorts as Mignonette do better with more space than this would allow, while the Rhodantes—

to take but one example—which do not branch, must be left much closer to be effective.

Economical Cropping.—Thin sowing in the vegetable garden has the additional advantage of enabling the most to be made of the space at disposal. In the Pea trenches, for instance, Radishes may be sown as a catch crop. There will be ample room and time for them to grow to table size. Between Celery or Leek trenches, which should always be drawn early, seeds of any of the Cabbage tribes may be sown in drills for transplanting, as may Lettuces, also Wallflowers, which to make good plants for the spring should now soon be sown. Later on Forget-me-nots and Silene pendula may be sown in similar spots or Lettuces or spring bedding be pricked out.

Making the Most of a Little.—

Small enough in all conscience is the garden plot attached to the average suburban house or even to its "garden-city" cousin. Almost everyone would like a little flower garden in which to walk and sit and on which to look from the house windows. He feels, also, that he must raise a few home-grown vegetables and, if possible, a little fruit. The Editor cannot perform miracles, but he would suggest that space might be saved by including the Runner Beans as an ornamental feature of the little pleasure ground and by grouping the culinary herbs in the herbaceous border. Their fresh greens and greys are quite welcome there. Ofttimes an ugly tool-shed may be beautified in winter by the Yellow Jasmine (*Jasminum nudicaule*), or by the yet more beautiful and fragrant Winter Sweet (*Chimonanthus fragrans*). These have no particular beauty in summer, and a screen of Runner Beans—either Scarlet Runners or the pretty bicolor Painted Lady—may be employed; not too close to the shed, of course. Not nearly enough use is, in the average small garden, made of available wall space. Very often valuable space looking south is given up to one or two more or less trained Pears which, sadly neglected, fruit but seldom. What welcome winter blossom could have been grown here with the afore-mentioned climbers on the wall and *Iris nunguis* and other winter-flowering plants at the foot! or, again, what crops of Tomatoes, early Kidney Beans, or Pears on cordon trees! Even good crops of Peaches are possible there if someone is prepared to take trouble.



AN EXCELLENT AND GOOD FOLIAGED RHODODENDRON—
LADY CLEMENTINA MITFORD.

The GARDEN HYBRID RHODODENDRON

The writer discusses their hardiness and value in the garden and the best varieties for different seasons and gives hints on their culture.

At a time when there is something of a "boom" in new Rhododendron species and their hybrids, it may sound somewhat heretical to put forward the claims of the brilliantly coloured hardy hybrids with which we have been familiar from infancy. Heresy or no heresy, the writer firmly believes that were it not for the glamour always attaching to the new and rare, many of the new species which now receive such attention and "coddling" would receive short shift in our gardens. That is not to say that their introduction has been in vain. It is quite possible, even probable, that in course of time some of their better characteristics may be incorporated in hybrids as hardy as the hardiest now in commerce, but—such processes take time.

It is not to be supposed that the newest kinds of the so-called hardy hybrids, that is, those with the characteristic growth and magnificent truss of Pink Pearl, Alice or Mrs. E. C. Stirling are as hardy as the older sorts containing perhaps Catawbiense bloom; but that they will withstand very considerable cold we know, and we may even hope that, as they become acclimatised, they will stand more yet. Fortunately from one point of view, but unfortunately from another, it is many years since we had anything approaching a really severe winter. When such a winter has come and gone, we may, perhaps, have to revise our ideas of hardiness in many directions.

It is often urged against the Rhododendron that its flowering season is a very short one—so is that of the Gladiolus, for example. Yet people are found willing to lift, store, replant and tend Gladioli, while the Rhododendron once planted in suitable soil and situation, demands nothing but the removal of the seedpods after

flowering and a certain amount of watering in times of extreme drought.

The Rhododendron bed or border is furnished with deep green foliage, far superior to that of the Laurel, at all seasons of the year. Its shelter is admirable for many species of Lily, and if the magenta-purple shades be kept out it may well be interplanted towards the front with the lighter and more softly coloured forms of Azalea mollis. Good seedlings cannot be bettered for this purpose, selecting if possible those in shades of clear pink and pink tinged salmon, also the various soft yellow shades. The wonderful translucent colourings of the Azaleas does not, as one might expect, kill the more full-bodied tones of the Rhododendrons; it seems rather to enhance them. The Azaleas serve another purpose also. They give interest to the bed when, in late autumn, their foliage takes on tints of flame more brilliant than many flowers.

These hybrid Rhododendrons differ almost as much in habit as Dahlias or Chrysanthemums, a fact which should be borne in mind first when ordering and, afterwards, at planting time. It is difficult to suggest varieties, for there are so many really excellent kinds in existence, and so much depends upon the purpose in view and also whether they are required for massing or for specimen planting. Because it is fairly new and still not cheap, Pink Pearl is often planted as a specimen, but it is really inferior to many of the older kinds, of which Lady Eleanor Cathcart may be mentioned as a good example.

Many people like the massed colour only obtainable by using sorts which flower simultaneously but, considering the brilliance of the Rhododendron, it is doubtful if this is really necessary or even desirable.

Very early flowering kinds are the scarlet flowered Nobleanum (earliest of all), Handsworth Early Red and Handsworth Early White, the dwarf but brilliant Jacksonii and Cunningham's White and Cunningham's Blush.

The next group, which, following the practice with Potatoes, we will call second-earlies, includes what the writer considers the finest of all hybrid Rhododendrons—the rosy-crimson Cynthia. Were he restricted to one variety this would be the one.

In the same group, but a few days later, on the average, to flower, are those newer hybrids the flesh pink vigorous Alice, the better known Pink Pearl and the beautiful rosy-mauve Mrs. E. C. Stirling. Other kinds with the same flowering season are the bushy, red Broughtonii, which is excellent for specimens; that fine dark crimson Grand Arab, and the upright-growing, white George Hardy.

For "maincrop," to use once again the Potato metaphor, there is a wide selection, but the following are a few of the very best: The mahogany red Doncaster, most remarkably coloured of Rhododendrons, differs from Bagshot Ruby by being much smaller and more compact in habit and a little more remarkable in colour. Bagshot Ruby is, however, a fine grower and first-rate sort. To a lover of the clear bright shades, the peach-pink Lady Clementina Mitford, the salmon-pink Lady Eleanor Cathcart, already referred to, the salmon-rose Mrs. Holford, and that fine grower, the pale lilac Princess Hortense, make special appeal; but for those who like the deep plum shades there are Baron Schröder and the yet darker Joseph Whitworth, while the clear lilac-purple of the double-flowered fastuosum fl.-pl. is quite pleasing. Of whites there are plenty, of which the purest and one of the best is Mme. Carvalho; but the spotted kinds, Baroness Henry Schröder and Sappho, and the yellow blotched Mrs. Tom Agnew all have their uses. The last is especially valuable for backgrounds, as it is a strong, erect grower.

Other good sorts include the tall, blotched pink John Henry Agnew, the excellent, blush-white Gomer Waterer, the deep red Michael Waterer and the tall, rosy-red Frederick Waterer.

Red and white varieties conclude the season as far as these hardy hybrids are concerned, but, of course, in favourable localities the Chinese species and hybrids will considerably prolong the season. Of a dozen or more late kinds the following are perhaps the best: Alexander Adie, strong growing crimson kind; Mrs. John Kelk, bright red, excellent; the blush-white Lady Hillingdon and Mum and Pictum, both white kinds.

Is it necessary, one wonders, once more to emphasise that a good, lime-free loam really suits Rhododendrons better, at any rate from a garden standpoint where compact habit and masses of flower are desiderata, than the more usual peaty compost? Considerable experience has shown the writer that it is all but useless, whatever precautions are taken, to attempt to grow Rhododendrons on what are naturally limy soils. Cowdung and rotten leaves will most readily provide the necessary humus. For the first few years an annual mulching is desirable.



SHOWS THE VALUE OF THE SPECIMEN RHODODENDRON.

THE RIGHTS AND WRONGS OF WALL GARDENING

WHO that has that good gift of a crumbling old brick wall in the garden, or elsewhere within the home amenities, could fail to take advantage such offers for adorning with suitable plants? *Suitable plants!* Some of this work which has been done sadly transgresses

pile of Rochester Castle, Kent, it was personally sought and found growing and blowing at a dizzy height, attached to the crumbling mortar joints of the massive stone blocks, and a slip was secured which eventually became an interesting memento of the visit paid now many years ago. Hence it may be taken that the humbler members



MUCH FLORAL BEAUTY MAY BE OBTAINED ON A RETAINING WALL.

the simple ethics of wall gardening as one feels it should be. For instance, one example under notice for several years has been nothing but an additional source of labour and worry to the gardener in charge, and doubtless if he could have the last word on the subject it would be to make a clean sweep of the lot from the crumbling wall top and clinch the matter by sealing all up with a good coping of Portland cement.

Several scarlet Geraniums made their appearance on that particular wall top, apparently in pockets made for the purpose, with similar weeds (matter out of place), entailing a daily climb with the water-pot to eke out their short and not particularly merry lives may be called wall gardening, but one feels it to be a mistake. Even those long-legged Carnations, obviously from under glass, which might have struggled on without visible means of subsistence, as last seen, were staked up and most painfully prim. That seemed the last straw. All, or anything of the kind, suggestive of pretty constant labour and attention, or anything not able, once introduced, to go on for ever and fight it out unaided, comes not within the category of wall gardening from the true gardening point of view.

The very position is the birthright of some of the most interesting members of plant life, such as the heat-loving Houseleeks and the alpine Pinks—Pinks, perhaps advisedly. It may be questioned whether some, such as that gem of the alpine flora *Dianthus alpinus* would prove perennially at home; but as far as the reputed parent of the Carnation family, *D. Caryophyllus*, is concerned, taking the advice of the late Mr. W. F. Burbidge that it was possible to find it established high up on Bishop Gundulf's historic

of the tribe love the elevated site. Comes, too, the happy memory of a great cushion of *Dianthus superbus* hanging oft, over either side of a garden stone wall.

Wallflowers and Snapdragons are, of course, mere vagrants, but often well worth initiating for Nature to play the game, as she is doing (and kindly tolerated) on the dividing wall between a couple of town gardens, which is, for many months, a glowing mass with rosy pink and deep crimson Valerians. The professional eye may not view such with unqualified admiration, but it is another story with the less aggressive and more refined little *Erinus alpinus*, where not only an old wall top is covered with it, but every crevice and cranny over the whole face is ablaze each summer with its warm beauty. That is a rare example in an old-world spot of the ducal demesne of Carton, Maynooth, away in quiet Kildare. One of the sights of early summer, too, is the massive keep of one of the ancient feudal castles of the noble family of FitzGerald crowned with vagrant yellow Wallflowers near the above demesne, where by some happy chance they found footing after Cromwell's attempt to demolish it which prepared the way for their foothold some soft, up. Of Snapdragons in vivid hues comes a pleasant memory of Dr. Sherrard's historic house, Eltham, Kent, and a rather imposing arched entrance to the garden simply ablaze with their beauty.

On one occasion personal effort was made to form a collection of Houseleeks on a solid topped stone wall by removing here and there one of the smaller stones, putting in a plaster of cow manure in which a rosette of each of the more interesting species obtainable was inserted, much on the principle that cottagers of Kent were prone to

introduce, or occasionally replant, cushions of the medicinal *Sempervivum Tectorum* on the pantiles of a roof. Our specimens were the interesting *arachnoideum* and its fine variety *atlanticum*, *atropurpureum*, a fine form of which the late Mr. W. F. Burbidge, who was gratified with the planting, called *violaceum* in its lovely colour, and others. Eventually they all made nice cushions and became a very interesting phase of wall gardening. After a few years, on leaving the locality, the little Houseleek garden remained intact for the gratification of new tenants. A neighbouring garden at hand may not be forgotten with its wall, on which *Ethionema grandiflorum* flourishes in quantity, a plant or two originally introduced having seeded freely and yielded a prolific progeny wherever the seeds could get a foothold.

Dublin.

K.

'TIS THE WHITE ANEMONE

An appreciation of a gracious wilding which, in some of its more uncommon forms, inhabits many gardens, but which is itself a "pearl beyond price."

TO the Ranunculads, or Crowfoots, we owe many of our most beautiful or brilliant flowers, and it would be difficult to conceive our fields, our woods or our gardens without the many exquisite or showy plants this great Natural order provides. None, however, excel in beauty the Anemones, although many are more imposing in mien, such as the Larkspur, or more effective, such as the Clematis, whose sheets of blossom so much adorn the gardens of our land. Of the host of Anemones commonly met with in gardens, but few are native plants, but these are in themselves so charming and so interesting that they would do more than afford sufficient material for an article of a length suitable for these columns.

As we think of our British Anemones our thoughts naturally turn to the Wood Anemone, *A. nemorosa*, in all probability the only one truly indigenous to Scotland—a flower which is one of the most charming ornaments of our woodlands in the early months. Those of us who know aught of our countryside can, at command, recall with "the inward eye" the carpet of greenery which is so exquisite a feature of our woods in early spring—the tender, delicately "carved" foliage, and the chaste and fragile flowers of the Wood Anemone, whose dainty and fragile loveliness is so well epitomised by Shelley when he writes of

"One frail and fair Anemone."

It has drawn to itself the thoughts of other poets, and as we look, with delight, upon those spreading sheets of our native Windflower, nodding on their slender stems as the lightest zephyr sweeps athwart the woods, we recall such words as those of Lord Lytton, who wrote of this pioneer of spring in words which will appeal to all lovers of our native flowers:

"'Tis the white Anemone, fashioned so

Like to the stars of the winter snow,

First thinks, 'If I come, too soon, no doubt

I shall seem but the snow that has staid too long,

So 'tis I that will be the Spring's unguessed scout;'

And wide she wanders the woods among."

Clare has sadder thoughts of these fragile Windflowers, for he speaks of them as

"Anemones—weeping flowers,

Dyed in winter's snow and rain."

While Lewis Morris gives us a harmony of sadness and of gladness as he sings:

"Soon we shall pass
Together to our home, while round our feet
The Crocus flames like gold, the Windflowers
white
Wave their soft petals on the breeze, and all
The choir of heaven lift up their silent song
To the unclouded heavens."

Mrs. Hemans, who is now so little read, carries to us a thought of the shadier woods with their great tree trunks rising from among the flowers like the columns of some sacred fane:

"The silence and the sound,
In the lone places, breathe alike of Thee;
The temple twilight of the gloom profound,
The dew-cup of the frail Anemone."

From all these verses we miss, however, the note of jubilation with which the poets sing of the Poppy Anemones of other lands, which seemed to have borrowed from their brighter skies a greater share of brilliancy than belongs to our own denizens of the woods.

With all the beauties of the Wood Anemone heightened by and wrought into harmony with the environment in which it has been placed by Nature, it appears almost like sacrilege to transplant it thence to the narrow bounds of our gardens with their artificiality and restraints of cultivation. Yet the intense desire to possess the *rus in urbe*, inherent in all lovers of flowers "cabin'd, cribb'd, confin'd" in town or suburb

known even in the time of Parkinson, is perhaps the most admired of all white varieties of the flower. In foliage and growth it is the counterpart of the typical plant, but the flowers are perfectly double, the central rosette of segments or petals being surrounded by a circle of guard ones which give the flower additional beauty, rendering it more formal, it may be, yet increasing its interest to all. It is of purest white, and is equally easy to cultivate as the single form.

Even the Wood Anemone has its eccentricities, and among these is its production of a variety akin in its formation to the old-fashioned "Jack-in-the-Green," familiar to growers of Polyanthus and Primrose. This is the variety called *A. nemorosa bracteata*, and its distinguishing features are the leafy bracts which surround the flower like a ruff of green, oftentimes tinged with some of the white of the segments of the flower itself. It is a quaint little variety, although it has a tendency to revert to the common form.

Of coloured varieties, which are now rather numerous, we cannot do more than name a few, especially as some of the newer forms are not as yet procurable in the ordinary way from dealers in such flowers. The single form, with flowers faintly tinged with rose, and its double variety are fairly well known, and the latter is sought after by a few specialists, although it is not a whit more desirable than the double variety of snowy white. The variety Blue Bonnet is almost as blue as *A. appennina*, while the large-flowered *A. n. Allenii*, with lavender blue flowers, is late



THE PALE PINK-TINGED ANEMONE NEMOROSA BOSNIACA, ONE OF THE BEST FORMS OF THE WOOD ANEMONE.

and unable often to roam the woodland, has led many to endeavour to establish this simple flower in their gardens, there to enjoy the pleasure denied to them under happier surroundings; while even those who can with little effort, visit the Wood Anemone in its own haunts can find, in the several varieties, plants worthy of inclusion in their pleasaunces, howsoever great or small these may be.

Of the several forms of *A. nemorosa*, apart from the common one so well known as to require no description, that with double flowers,

flowering and charming, *A. n. Robinsoniana*, with its fragile cups of opalescent blue, many readers will know, and knowing, will allow that it is perfectly exquisite—exquisitely perfect.

When wandering through woodland in spring-time it is well to keep watch for any unusual form of this beautiful but, especially in some districts, variable plant. The species and all its varieties are easily cultivated in any light, loamy soil containing a good percentage of leaf-mould.

S. ARNOTT.

HOMELY FLOWERS

With the many glorious new races of plants some of the old favourites tend to become neglected, which is a pity.

FOR giving lasting satisfaction few flowers equal those that we generally call old-fashioned. The majority of them, too, are fairly long lived, and so afford this pleasure over a lengthened period. Furthermore, they are, nearly all, easy to grow. Forceful recommendations, are they not? For ten years I was responsible for the production of about thirty thousand bedding-out plants—for the summer season only—annually; these plants, including the cutting and seedling stages respectively, were handled three times before they were established in their flowering quarters. I mention numbers specially because there were two large beds in this big garden that were entirely filled with plants bearing fragrant leaves, flowers, or both, and I am correct in stating that the beds referred to were more appreciated than all the others.

Of course, I do not wish to convey the impression that I think other kinds of flowers inferior in every way and not worth cultivating; far from it, as I hold the view that there is room for all, and, as tastes differ, how fortunate we are in possessing such a wealth of variety—enough to satisfy everyone.

Isolated beds and others in odd positions are, I think, the most suitable for filling with "homely flowers." One comes upon them unexpectedly, and one's visitors are sure to be pleasantly surprised. A bed may be filled with a selection from the following kinds, and I have found old specimens, turned out of pots from the greenhouse, very satisfactory for the purpose: The lemon-scented Verbena, scented-leaved Pelargoniums, Heliotrope, Carnations, Pinks, Jasminum, Honeysuckle, Nicotiana affinis, Lilliums, Sweet Peas, all planted far enough apart to show clearly their individuality and to allow free growth to a groundwork of Mignonette. Near the edge of the bed there may be clumps of the Night-scented Stock (*Matthiola bicornis*) and Ten-week Stock. If available the bed should contain several specimens of Lavender. Of course, to contain all these plants the bed must be quite 20ft. long by 7ft. in width. By employing fewer plants a smaller bed could be just as satisfactorily furnished.

An informal bed would contain such plants as Hollyhocks, Delphiniums, Phlox, Chrysanthemums, Ox-eye Daisies, perennial Asters, Cornflowers, Dahlias, Poppies, Marigolds, Petunias, Zinnias, clumps of Sweet Peas, Sweet Williams, Aquilegias, with a fronting up of clumps of Pansies, Violas, Nasturtiums, Ten-week Stocks, annual Asters, and the pretty Virginia Stock.

The shaded border—it may be one near the plantation or overshadowed by some fine specimen trees—may be made most interesting if Saxifrages in variety, Honesty, Michaelmas Daisies, Foxgloves and similar plants, strong-growing by nature, are planted in prepared positions. G. G.

FORTHCOMING EVENTS.

March 21.—British Carnation Society's Show at the R.H.S. Hall, Vincent Square, Westminster.

March 22.—Wimbledon and District Gardeners Society's Meeting.

March 23.—Royal Botanic Society's Meeting.

March 24.—Paisley Florists' Society's Meeting.

MAGNOLIAS FOR THE SMALL GARDEN

There are few more beautiful small trees or shrubs than the Magnolias, nor, if a few simple requirements are attended to, many easier to grow.

THE novice with a small or not over large garden who consults a horticultural dictionary is not very likely to plant Magnolias. Heights of 60ft., 80ft., 90ft., even 150ft., are there mentioned as the limits of growth of different species and varieties. This notwithstanding, where shelter exists or can

conspicua, which, though it ultimately attains double the height of *M. stellata*, really requires less space when mature, inasmuch as it takes on, with age, the habit common to deciduous trees. This is an excellent species to train against a south or west wall, but it is valuable also as a bush as it has a pyramidal habit of growth and flowers

only real exception to this is *M. stellata*, which likes a more open root run. It is, in fact, fonder of peat than are Rhododendrons, and thrives in a compost half peat, half light loam. All Magnolias are impatient of drought. They are also impatient of removal when dormant. They should therefore be removed either when growth is starting in spring—as late as May will answer—or very early in autumn before growth has ceased.

The evergreen *Magnolia grandiflora* with its immense creamy-white flowers produced in late summer is a beautiful wall tree, and in our Southern Counties succeeds in the open, although, so treated, it grows but slowly.



THE YULAN, MAGNOLIA CONSPICUA, LOADED WITH GLISTENING CUPS.

be provided against rough winds, and, especially in the case of certain kinds, against morning sun striking frosted blossoms—some of the Magnolias are among the most useful and most beautiful of flowering shrubs. The word "shrub" is used advisedly, since even the large-growing Yulan flowers when quite small and grows quite slowly.

Perhaps the most beautiful of all Magnolias—certainly the most useful for the small garden—is *M. stellata*, still often called *M. Halleana* in gardens. It may in time in favourable situations attain a height of 12ft. to 15ft. or so, forming then a bush 20ft. perhaps through, but it commences to flower when still small enough to grow in a 5in. pot and grows slowly, if steadily, so that it takes many years to attain the size of a fair-sized Lilac. Gales, or ever fresh breezes, often damage the blossoms, so that it should be afforded as sheltered a site as possible. It is, however, very prodigal with its blossom, and the tree quickly recovers its appearance. It is in flower during the present month and in April. This irregular opening of the blossoms, which considerably spreads the flowering period without detracting from the appearance of the tree, is characteristic of Magnolias in general. The variety *rosea* differs from the type in having blossoms which are a delicate pink when they first expand.

Next in order of importance to the man with limited space at disposal is the Yulan. *M.*

while still quite young. The flowers, which have petals about 2ins. long, are pure white.

Magnolia obovata has flowers of about the same size, but it is looser in habit of growth and thinner of wood, and the flowers are purple and white outside, white within. This is the plant which is often listed as *Magnolia purpurea*. The variety *purpurea* is wholly purple without—a moderately hardy and valuable species, but chiefly notable as being the parent with the Yulan, already described of two excellent hybrids known as *M. Soulangeana* and *M. Lenei* respectively, the latter with broad, handsome foliage and huge substantial blossoms in which the petals are often as broad as long. The flowers are handsomely shaded without with purplish rose and glistening white within. Rather late to flower, it is seldom injured by frost.

Magnolia Soulangeana is, perhaps, better known than the last named and differs considerably from it, though it is said to have the same parentage. Very similar in habit of growth, it flowers later than the Yulan and differs from it in many particulars chiefly interesting to the botanist, but the rose-stained flowers and its later season of flowering render it quite distinct. The variety *nigra* has a habit of growth similar to that of the typical plant, if rather less vigorous with the more pronounced colouring of *M. obovata purpurea*. *M. Alexandrina* often seen listed, is but a form of *M. Soulangeana*.

Magnolias are fairly accommodating as to soil, but appreciate a sound loam in good heart. The

SOME NOT COMMON INDIGENOUS PLANTS

Now that the time approaches when flower lovers will again be haunting the hedgerows the following notes on native plants of interest seen last summer should be apposite.

SOME fine white flowering spikes of the common Bugle, *Ajuga reptans* were seen in early May in this district (Cleveland, North Yorks), also sparingly white flowers of the Bluebell, *Scilla nutans*, and quite a quantity of the white variety of the Milkwort, *Polygala vulgaris*; some of the larger flowering specimens of this *Polygala*, especially the rosy red variety which I have, are quite worthy of a place on the moraine or in the rock garden.

Early in June I had an interesting week-end in a locality in the North of England noted for its alpine flora; at an altitude of about 1,800ft. on "sugar limestone" formation, *Dryas octopetala* was very local and very dwarf, with small leaves (the variety known as *D. octopetala minor*, which also is found in the Irish station; I have a plant from the latter locality which sheds its leaves in the winter with me, and the larger-leaved type from the Alps does not appear to do so); the leaves are hard to the ground and there were very few flowers, these probably being grazed off by the mountain sheep which were in evidence on the ground. In the same locality was a dwarf *Antennaria dioica* with short-stemmed red flower-heads, certainly a desirable and pretty plant for the moraine if it would only keep dwarf at a lower elevation. I have seen no note of this variety referred to in the floras of the district that I have had access to, *Hippocrepis comosa*, on the same ground, owing to its extreme dwarfness, was almost unrecognisable; these plants hereabouts were just what you would expect them to be in an exposed position at an altitude of about 8,000ft. or so in the Alps. *Helianthemum canum*, with its small-leaved wiry foliage and dainty yellow flowers, the petals in the bright sunshine being very much reflexed, was sparingly associated with the above plants and more freely in another position on the same "Fells" some little distance away, but extremely local; stunted plants of *Draba incana* were fairly frequent; also *Arenaria verna*—this was more frequent and very fine along some of the stony tracks. In a damp position at a little lower level the rare *Juncus triglumis* was seen; unfortunately, owing to some of these plants having been transplanted in this locality by an ardent botanist many years ago, it is not possible to say with certainty that it was original; it was transplanted from a locality in which it still flourishes at no great distance away, but in an adjoining county. Local interference with rare native plants in this way is

hardly wise and the result can only be to throw doubt on all future records in the locality for the species so tampered with.

At a higher altitude, 2,000ft. or more, the pretty foliage and white flowers of the Clond Berry, locally known as "Knout Berry" or "Out Berry" (*Rubus Chamæmoros*), was fairly frequent, usually in somewhat boggy heaths associated with *Sphagnum* Moss. This plant is occasionally included in plant catalogues, and would be quite a desirable plant to have in the garden if it was possible to succeed with it at the lower levels. I have tried it, as also have others, but none so far as I know with any success; it is pretty both in flower and leaf—the latter especially when it assumes its rich autumn tints, as I once saw it in quantity by the side of Stake Pass leading from Wensleydale to Wharfedale.

A beautiful plant of the Moschatel (*Adoxa Moschatellina*), nicely fitted in under the shade of a large rock at an altitude of about 2,200ft., seemed to be very high for this plant and more than double the height it is given as reaching in the North Yorks flora. About the same level the only flowering plants of *Gentiana verna* (two) were seen; it had flowered quite freely on the lower ground earlier; in fact, owing to the dry, hot spring it was out and over much earlier than ordinary. I am afraid it suffered more than usual from visitors this year and, unfortunately, for the most part those who remove the plant are the least likely to establish it; it is not easy to the expert, and he usually, if he takes a rare or local plant either at home or abroad, is very sparing and careful to do as little damage as possible. It would be a disaster if a rare and beautiful native such as *G. verna* is, should become exterminated to all students of nature, not only present but future. A white-flowered variety was seen by a friend in this locality some years ago. It may not be out of place, taking into account the enquiries and notes on varieties of *Gentiana verna* that appeared in THE GARDEN last summer, to put on record that Correvon, in his "Plantes des Montagnes et des Rochers," includes the following named varieties: *G. verna chionodoxa*, *blanc pur*; *G. v. atrocerulea*, *bleu foncé*; *G. v. azurea*, *azur pale*; *G. v. grandiflora*, *G. v. rosea* and *G. v. violacea*; and a footnote states that all these forms were in cultivation at his garden at Floaire at the time.

Saxifraga hypnoides was fairly common at about 2,000ft., more especially on the southern slopes, and the pretty annual *S. stellaris* was frequent in damp places at a lower level; this was seen in damp ditches by the public highway.

At the pasture levels some lovely forms of *Viola lutea* were frequent and very noticeable on the wiry green carpeting. *Bartsia alpina* was occasionally seen in the damper parts of the high pastures. Some of the highest pastures, about 1,400ft. up, with south aspect were lovely with large masses of the Globe Flower (*Trollius europæus*) and the Bird's Eye Primrose (*Primula farinosa*), which were almost over at a lower level. Some of the *Polygalas* in these parts are very striking, and the interesting viviparous Knot Grass is fairly frequent over a wide area. One of the features of the higher meadows in June is the masses of *Geranium sylvaticum*, and by a roadside a plant of the white-flowered form was observed. Naturally, the Orchids are a special feature of the high pastures, but owing to the long continued dry weather they were not nearly so fine as usual. If not the most beautiful British flowering shrub, the Shrubby Cinquefoil (*Potentilla fruticosa*), certainly ranks very high; it is fairly frequent, and in places quite in masses, although not last year early in flower; the British shrub is one of the most desirable for the larger rock gardens and no

inferior to the many other beautiful shrubby *Potentillas* that have been introduced into our gardens from China and the Himalayas during recent years.

The distribution of this *Potentilla* is interesting; in Great Britain it is only indigenous in an area composed of parts of North-West Yorkshire, Durham and Westmorland on limestone, and in the West of Ireland, Galway, Clare and Mayo (which also are the only British localities for *Gentiana verna*); common in Canada and United States; sparingly on the Continent of Europe, one Scandinavian Station, one locality in South-East Russia and in the Pyrenees and Maritime Alps, the plant in the two latter localities is of prostrate habit and known as *Potentilla prostrata*. ("Distribution of *Potentilla fruticosa*," by Dr. J. W. H. Harrison. *The Vasculum*, Vol. II, pages 49-51.)

Towards the end of June in visiting Mount Grace Priory the white variety of the "Ragged Robin," *Lycinis Flos-cuculi*, was seen in flower in damp, peaty ground near the old Priory Fish Ponds, and at the same time the dainty *Trientalis europæa* was in flower in the upper part of the wooded slopes. This species was also in fruit at Birnam in Perthshire in September.

Interesting plants noticed on the coast sandhills at Redcar in June included *Erigeron acris*, *Lepidium Draba* (a sweet smelling white-flowered alien, which

I have also seen abundant on waste ground in the district), *Astragalus hypoglottis* (a pretty native which grows in dry alpine pastures); along the sandhills between Redcar and Marske in July provided the pretty Maidenhair-leaved *Thalictrum minus* fairly plentifully; it is quite a nice plant for the garden, but, unfortunately, too apt to abuse the trust placed in it by running about too freely in good sandy soil. Quite a pleasant surprise at this time were the masses of the beautiful *Campanula rotundifolia* that dominated many parts of the banks, especially where they had been distributed by trenches and sods taken off during the time of the military occupation in recent years. The flowers varied considerably both in size and colour, ranging from the typical blue through various shades of pale blue to white, some of the forms being not unlike the silvery blue form of *Campanula pusilla* known as Miss Wilmott; there was quite an appreciable quantity of these pale blue varieties but the pure white bells were only sparingly distributed. This British *Campanula*, with its numerous varieties, is worthy of more use in our rock gardens; it is always beautiful and carries the flowering period on well into August, and although it may seed freely, it does not seem like being anything near as troublesome as *Campanula pusilla* often is to control.

Middlesbrough.

T. ASHTON LOFTHOUSE.

LARGE-FLOWERED SINGLE CHRYSANTHEMUMS

THERE is an impression abroad that the single Chrysanthemum of exhibition type is being overdone; that, in fact, its size militates against its general adoption as a flower for the amateur's garden in autumn. The decorative effect, however, of these large disbudded singles can hardly be questioned, for they embrace a wonderful range of colour, from purest white through the entire range of those glowing autumnal art shades for which this beautiful exotic is justly renowned, and culminating in rich and brilliant shades of crimson. Combined with these attractive colours the flowers have also lasting qualities that force them upon our attention; further, they are carried on light, flexible stems of more than ordinary length, making them ideal for any floral work of a decorative character.

While a considerable amount of technical skill is called for in producing blooms of exhibition standard, flowers of high quality can, nevertheless, be produced with quite ordinary care and attention. Nicely rooted plants may at this season be procured from firms specialising in Chrysanthemums. These should on arrival be potted up into jin. pots, using a light compost of two parts good loam, one part each of leaf-soil and stable droppings (the latter being first dried and rubbed through a half-inch sieve) with half a part sharp sand. Mix thoroughly and pot the plants moderately firm. After potting stand in an unheated frame, keeping close for a few days and shading the plants during bright sunshine. After a week some air must be given and he gradually increased till they will bear full ventilation. Towards the middle of April the plants will require repotting into jin. pots, being immediately returned to the frame, which should now be given a position in full sun. Lightly syringe the plants overhead early in the afternoon and for the first fortnight shut up the lights about five o'clock. By May 1 plants of this type may be fully exposed to the weather on all occasions, except during periods of excessive wet or when there are indications of frost. From the middle to the end of the month the work of placing in their flowering pots must be taken

hand, and for this operation employ a rougher compost than that previously named, increasing the loam by one part, the others in proportion already given. The plants should be potted firmly, but not too hard, and care be taken that roots are not carelessly damaged in ramming.

Great care is always necessary in watering. The plants should never become too dry, and a sodden condition must also be strictly guarded against, the best and safest test being to sound the pots, when a clear, hollow ring will indicate the need of water.

Stopping and disbudding of the growths is a necessary though somewhat obscure detail to the uninitiated. Stopping is directed to removing the growing point of the shoot sometime in April, although some growers prefer to let the plants make a natural break; in any case this results in the "lead" branching, hence disbudding consists in reducing the number of shoots to be retained. At this stage three to four shoots are sufficient, and those at the immediate top should be retained. A further break will occur towards the end of June or early in July, and again two to three shoots are retained to each of the original growths. These are grown direct to the next bud, which is now selected, and all side buds and lateral growths are suppressed.

Details of summer treatment include staking and tying of the growths as necessary; then, after the plants are settled in their flowering pots, syringe with clean water on bright afternoons. From mid-July onward until the flowers expand, some approved fertiliser should be given as a stimulant and is best applied in liquid form.

Housing the plants is best governed by the weather, and may generally be taken in hand towards the end of September or early in October. A good practice before housing is to lay each plant on its side and thoroughly to spray the underside of the leaves with a weak solution of liver of sulphur, this being an excellent preventive of mildew. As the plants come into flower maintain a free circulation of air, as thereby the lasting qualities of the blooms are developed to the maximum.

An excellent selection of varieties of pleasing colours include Jessica, Sandown Radiance, Kitchener, Mavis, Reg. Godfrey, Lady Astor, M.P. and Supreme, all in shades of crimson or chestnut; Bertha Fairs, Bronze Molly and Edith Dimond, in apricot and bronze shades; Coronet,

Gladys Cooper, Lizzie Robertson, Sussex Yellow and Glorious, in yellow orange; Allie, Molly Godfrey, Margaret (Godfrey), Mrs. W. J. Godfrey and Mrs. H. J. Jones, in shades of pink; and Stuart Smith, Tom Wren, Mrs. F. W. Smith, Mensa and Flossie, whites. T. S.

previously named, and embraces *Asperula*, *Bartonia*, *Calendula*, *Calliopsis*, *Godetia* (dwarf sorts), *Gypsophila elegans*, *Iberis umbellata*, *Linaria reticulata*, *Malcomia* (Virginian Stock), *Nigella*, *Phacelia*, *Reseda* and *Viscaria*.

Whether annuals are sown in straight rows or clumps of irregular shape is immaterial, as with a little foresight, even when sown in straight rows in the first instance, it is tolerable easy to give the groups a broken or intergrouping effect, although, of course, the clump method is much more practical when this end is in view. The great point leading to success lies in thinning out the plants early and systematically; that is, in two or three operations; ultimately the plants should stand as far apart as half their average height. Then, as soon as the final thinning is complete, insert a few dwarf, bushy loughs among the plants, so that when in flower no evidence of this support may be seen.

With regard to the soil for annuals, this should be deeply dug and moderately enriched with farm-yard manure to which a dressing of slaked lime should be given in advance of sowing. Ground freshly turned just previous to sowing, is best dressed with steamed bone flour instead of lime, this being lightly pricked to the surface with a fork, using it at the rate of 1 lb. per rod of ground.

A beautiful section of annuals include those of a half-hardy nature—*Anagallis*, *Brachycome*, *Kochia*, *Nemesia*, *Nicotiana*, *Phlox Drummondii*, *Salpiglossis*, *Scabiosa* (Sweet, really a biennial), *Statice*, *Tagetes*, *Zinnia*, China Asters and Stocks of the Ten Week type. Annuals of this section are best sown indoors towards the end of March, and, when large enough, transplanted singly to prepared soil in unheated frames, where they are gradually hardened off for planting in their flowering positions during the month of May. Half-hardy annuals succeed in soil similar to that recommended for hardy annuals. It should be light and rich; the richness, however, is best tempered by an application of steamed bone flour a few days in advance of planting; the latter balances the growth and corrects the tendency to exuberant vegetation at the expense of flowers. T. SMITH.

A SHRUB FOR WET GROUND

Those searching for an altogether unusual little shrub for a really moist part of the rock garden would do well to make a note of *Rhododendron kamschaticum*. Not only is it a very beautiful little plant, but it adds a vast fund of interest to visitors by always pretending that it is not a *Rhododendron* at all. To begin with, it sheds all its leaves in autumn and stands quite bare all through winter days. Then it grows in low, dense tufts, and instead of producing its flowers in heads, these are almost always solitary, although one may sometimes find a pair together. These flowers are rosy-crimson in colour, the three upper petals being spotted and the whole surrounded by a green calyx. Another distinctive feature of the plant is its method of spreading by means of underground suckers which serve as a means of propagation. In spite of this, it is a rare little plant, and, once one has it, it is, if given suitable culture, long lived. It needs continuous surface moisture, hence the suggestion to plant in semi-bog, for it soon perishes where there is any risk of even moderate dryness. Choose a place sheltered from the morning sun and thus avoid the flowers being spoiled by its shining upon them when they are frozen. Plant in sandy peat with which a generous amount of chopped Sphagnum Moss has been mixed. Never forget the water supply and all will be well; but the penalty of drought is quickly paid in dead plants

ANNUALS IN GARDEN DECORATION

The treatment and conditions suitable for the different kinds

TO the older enthusiast in gardening it has long been common knowledge that in annuals we have long harboured angels unawares, for what we do in the greenhouse, as a matter of course, with a few pots of *Clarkia*, *Godetia*, *Schizanthus*, *Viscaria* and Sweet Peas can be as readily reproduced in the open garden on a larger scale, the main difficulty being to convince ourselves that the thing is worth doing. Let us, however, con-

selves to advantage over bushy sticks or any light, wire trellis-work

A section of annuals that luxuriates in hot positions, where the soil is rather poor in quality and not likely to become over-saturated with rain, includes *Dimorphotheca*, *Eschscholtzia* (biennial, but always most satisfactory when grown as an annual), *Linaria alpina* (perennial), *Calceolaria mexicana*, *Portulaca*s and *Nemophila insignis*. Then there are two annuals that ask for quite



FEW PERENNIAL PLANTINGS ARE MORE EFFECTIVE THAN THIS BORDER OF HARDY ANNUALS.

cede that the methodical and conscientious care that we expend yearly in raising China Asters, *Antirrhinums* and Stocks can be extended to cover the whole family of annuals, then the result will be an enormous gain to the garden both aesthetically and practically, and for ourselves an addition to our plant knowledge that will agreeably surprise us in the breadth of outlook that it entails.

In the decorative scheme of the garden the greatest success follows when distinctive positions are chosen and always with due regard to the plants' requirements. Gourds are important fast-growing annuals for clothing trellis-work and lightly constructed pergolas, and require rich, light soil in a sunny position. Sweet Peas are ubiquitous, but are best displayed in clumps, using bushy sticks or wire supports for them to cling to. *Ipomoea imperialis*, also a climber, will succeed in ordinary garden soil, while *Tropaeolum majus* and *canariense*, though grateful for some slight preparation, will, however, often give wonderful results in very indifferent soil; like Sweet Peas, the two last-named display them-

different conditions; the diminutive *Ionopsidium acule* prefers slight moisture in the soil and enjoys some shade during the hottest part of the day; while the other, *Linnanthus Douglasii*, is an annual that revels in cool, moist conditions at the root, with the vegetative part luxuriating in sunshine.

Annuals of gigantic stature are found in *Cannabis gigantea* and the various forms of *Helianthus annuus*, the first named having its attraction in the foliage. When employed together an excellent screen will quickly result, while the effect in late summer of the big Sunflowers standing boldly out from a mass of greenery presents quite a pleasing feature in the garden.

The annuals, however, which give the greatest service in the garden are those I define as border annuals; they are strictly hardy annuals and should be sown where they will flower, March being one of the best months to begin. I have made two groups; the first, embracing the tallest sorts, includes *Calliopsis*, *Centaurea*, *Clarkia*, *Delphinium* (Larkspur), *Godetia*, *Helianthus*, *Lavatera* and *Papaver*. The second group, being dwarfier, will require placing in front of those

CORRESPONDENCE

THE V.M.H. AWARDS.

YOUR article on the awarding of the V.M.H. certainly voices the feeling of many. When one considers what the family of Waterer have done for gardens by raising Rhododendrons and Azaleas without being given this recognition there is bound to be comment. But it is only fair to point out that the Council are not unduly generous to themselves. Mr. Dykes' book on the Iris and his work with that genus are alike remarkable. Mr. Wallace has undoubtedly raised the standard of show exhibits and also of a certain type of garden. Their omission from the list is probably entirely due to their close association with the Council. Generally speaking, those people whose work definitely influences horticulture, the collectors, the scientists, the hybridisers and the distributors of plants or of knowledge are the ones the public consider "deserve special honour at the hands of the Society."—**SCRUTATOR.**

[In the article referred to (page 87) names were mentioned only as examples. Our correspondent suggests others who have done exceptional service to horticulture. All these instances, however, serve but to throw into higher relief the futility of some recent awards.—ED.]

THE ROADSIDE GARDEN HEDGE.

I DO not know where Mr. Dillistone may live, but if he were to try and plant flowering shrubs on the roadside in this district he would be foredoomed to disappointment. Not a flower, not a bud, would be allowed to survive the hand of the destroyer. If he tried evergreen plants such as Escalloniás or even Eonymus, every branch that could be reached and broken off would find its way to London or the nearest town at Christmas or Eastertide. It is sad, but true, the wild flowers of our hedge banks are fast disappearing; no wonder, when we often see Primroses, Violets, etc., pulled out by the roots and allowed to wither by the roadside. The beautiful picture of *Viburnum plicatum* fills me with envy. Here it behaves very badly—"exists," but that is all. In four years the growth is about gins. *V. tomentosum* takes much more kindly to our soil; *V. macrocephalum*, said to be less hardy, is a mass of bloom annually on a south wall; and *V. tomentosum* var. *Mariesii* looks as if it would beat them all in a few years.—**HEATLEY NOBLE, Henley-on-Thames.**

SOME FINE KINDS OF SNOWDROPS.

THAT broad-leaved Snowdrop, *Galanthus Ikarie*, flowered early in February this season. Its leaves are a very glossy dark green, they bend outwards more than any other form, more like those of a *Stilla* than a Snowdrop. The flowers are large, well balanced, very pure white with a large spot of green on the inner segments. It is grown here in a south-east border under a greenhouse wall; it seems to like a warm situation. It is only found on the Island of Nikara off the coast of Asia Minor. The Straffan Snowdrop is one of the most charming of the family. It has a long period of flowering, which is characteristic of the caucasicus or plicatus kind. Each bulb, when strong, produces a second flower between the pair of leaves, so that when the first flowers wither a second array takes their place. In 1856 Lord Clarina brought bulbs of *G. plicatus* from the valley of Tchernaya in the Crimea, to Mrs. Barton of Straffan, County Kildare, among them came this distinct and beautiful variety. Mr. Streeter, the gardener at Straffan, tells me he gives a top-dressing of leaf-mould every second year to all

Snowdrops growing in grass—the result at Straffan justifies his methods. The Snowdrops are like a white quilt on the ground, and when their season is over they are replaced by Daffodils, which, in the damp climate and rich soil of County Kildare, grow from seed and some beautiful natural hybrids have occurred. Another Snowdrop from Russia, which came to Glasnevin from the Rev. Charles Digby of Lincoln, is a form of *G. plicatus*. Mr. Bowles says it is the best form. It was brought from the Crimea after the war, and has flourished in Mr. Digby's parish ever since.—**W. PHYLIS MOORE, Glasnevin.**

THE POMEGRANATE OUTDOORS.

FOR many years the Pomegranate flowered profusely on a south wall of my grandmother's house, Castle Hackett, County Galway.—**F. L.**

ADVICE WANTED.

I WONDER if you can help me with my *Cinerarias*. The strain is Sutton's Reading Gem, a hybrid between the usual variety and a Tenerife plant. My plants are healthy and look well, but they make so little progress. I wonder when their blooming season is. The hybrid is a pleasing new strain in some ways. It is much more compact, with small, serrated grey leaves. My greenhouse is seldom below 55°, and other *Cinerarias* find it too much. Perhaps some of your correspondents have had experience with it. I shall be very glad to hear what they have to say. Neither Messrs. Sutton nor the R.H.S. afford me any help.—**E. E. H. E.**

THE WILLING GARDENER.

IF other readers of your delightful paper enjoyed the article signed "D. N.," which appeared a week or so back, as much as I did, you will probably have been inundated by letters bearing on the subject. For ten years I had the good fortune to enjoy a similar experience to that of your correspondent, and the fact that "John," as I will call him, was of the jobbing variety only (my garden and means both being small) makes the keen interest in and love for his work all the more delightful. During all the time he worked for and with me, for we have spent many a long day at work together, he showed unflinching courtesy and consideration, entering into all my plans regarding colour schemes and grouping of plants with zest and interest. It is now some three years since a wise neighbour and friend engaged him as his regular gardener, but after his work is done he will often come and help me with his advice and suggestions, for although his successor is hard-working, he is not an expert. Only last summer, after spending some long time helping me in this way, he refused to accept the payment I offered him as due to him with the remark, "No, ma'am, this time is my own, and it's a pleasure to come and help you," and I felt that to press the point would almost have partaken of the nature of an insult. I could give many more instances of his thoughtfulness and kindness, but will not weary you; it is a pleasure to write this of one who has increased my love for and knowledge of things pertaining to the garden until it has become an abiding joy.—**E. M. C.**

SCORZONERA AND SALSIFY.

A QUESTION is asked on page 95 in an article upon Greenhouse Fuel as to the relationship between *Scorzonera* and *Salsify*. They are, indeed, closely related, and so closely similar in leaves, roots and their milky juice that they cannot

readily be separated botanically until they come into bloom. The roots of *Scorzonera* are, however, much darker in colour and often described as black, though the interior is white. The two plants are separated by many characters, which, to ordinary people, would seem insignificant, but are very important to botanists who have to note the smallest differences in order to divide up a family consisting of some 10,000 species or more. If the plants are allowed to flower in their second year it will be seen that *Scorzonera* has yellow flowers and many bracts overlapping one another in several series and enclosing the head. On the other hand, *Salsify* has purple flowers and only one set of bracts or scales surrounding the flower-head, while the roots are white. The late Mr. Alexander Dean once sent me a plant in bloom, asking for its name, whereas he might have guessed it was *Salsify* if he had seen it the first year. Botanically, it is *Tragopogon porrifolius*, but I fear I could not separate it from its cousin, the Goat's Beard (*Tragopogon pratensis*) unless both were in bloom, so closely similar are they the first year from seed.—**J. F.**

ALPINES AT MONT VENTOUX.

LOVERS of rock and alpine plants and all interested in their geographical distribution are indebted to M. Correvon for his interesting account (*THE GARDEN*, page 76) of a botanising and seed-collecting expedition to Mont Ventoux in Provence. Evidently the vegetation of this outlying bastion of the western Alps is profoundly interesting, particularly in regard to the low level to which certain plants descend, though often regarded as usually, if not exclusively, alpine—*e.g.*, *Douglasia Vitaliana*, *Androsace villosa*, *Saxifraga oppositifolia*, *Viola cenisia*, *Papaver pyrenaica*, etc. In that and other respects the flora reminds me greatly of that of the picturesque limestone chain of Sainte-Baume, some sixty-five miles to the south-east and approached from Marseilles or Toulon, though the latter range is about 2,000ft. lower than Mont Ventoux. The article points to a remarkable fact in the distribution of many alpine plants for which I have never heard an explanation. Why is it that we find in such southern mountains, and again in the Pyrénées, and to a less extent in the Maritime Alps close to the Mediterranean, alpine and sub-alpine species at lower elevations than in the cooler latitudes of the Swiss and Central Alps? I have collected abundant specimens and facts in proof of this. Is it possibly the fact that the ground in the high Alps is relatively much warmer than the air, as pointed out by Kerner and others, and the intensity and quality of the alpine light which causes plants to prefer the higher altitudes in the Swiss Alps to corresponding lower altitudes in which they are found in some of the more southern mountains? Or must we look to the vexed question of the origin of the alpine flora and its connexion with the glacial period at the close of tertiary times for an explanation? To find certain alpine species a few hundred feet above the sea in Scandinavia, or at sea-level in Spitzbergen is not surprising; but why are some of these plants and certain coniferous trees not seen at such comparatively low altitudes in the Swiss Alps with their longer winter and colder climate than that of the Pyrénées, Mont Ventoux and the Maritime or Ligurian Alps? We are told at Mont Ventoux such plants as *Papaver pyrenaicum* and *Douglasia (Androsace) Vitaliana* are abundant at the upper limit of the area reafforested—"a real Paradise for rock and alpine plants"—apparently this is below 1,850ft., where "the bare stretch of mountain" begins, with its "carpets of *Douglasia* . . . so thick, so enormous, that we must walk on them." One's first impression

is that M. Corveon forgot to convert metres into feet! But probably the figures are correct, and if so, they are a remarkable instance of a state of things that has so often puzzled me elsewhere. The summit is given as 5,800ft., whereas Baedeker gives 6,270ft. in the text or its equivalent of 1,912 metres in one of his maps; but this discrepancy is not serious, and it does not affect the chief point of this note. The strange thing is that various alpine plants do not get to the top of these much lower mountains in the South; whereas some of them, or closely allied species, frequently ascend to 12,000ft. or 13,000ft. in the Swiss Alps. As a matter of fact, alpine plants will grow at any altitude in the Alps, provided they can get a little soil in a situation free from snow for a few weeks in the short alpine summer. It should be added that notwithstanding the great height reached by a few plants in such Swiss mountains as the Matterhorn and Finsteraarhorn, the downward limit of the alpine and sub-alpine zones is considerably lower in the Bernese Oberland than in the Southern Alps of the Swiss Valais. In conclusion, we must not forget that a number of plants often seen at quite high altitudes and usually regarded by English botanists and visitors to the Alps as typically alpine, are not exclusively so, but are found at elevations of 2,000ft. or less, for example, in many parts of hilly France. To mention only a few, we have *Draba aizoides*, *Saxifraga stellaris*, *S. aizoon*, *Gentiana verna*, *G. ciliata*, *Swertia perennis* (grows near Paris), *Dryas octopetala*, *Anthericum Liliago* (frequent in sunny hills throughout the greater part of France) and the grass, *Stipa pennata*, whose long, feathery arms sometimes decorate the hats of Swiss and Austrian guides, and which, though occasionally growing in the alpine zone, is frequent in arid places in the plains and even reaches the neighbourhood of Paris. In this connexion we can ignore many of the numerous so-called "Alpines" of nurserymen's catalogues and rock-garden parlance, which, under no pretext whatever, can be called alpine, however suited many of them are to the rock garden. H. STUART THOMPSON.

ANNUAL FLOWERS FOR OLD FOLKS.

I HAVE a newly made flower garden and—I am an old woman—if I plant perennials the probability is great that I shall not live long enough to enjoy them in full perfection, nor make alterations or replace them where they fail. Last spring I did not plant perennials for the soil was not settled enough to receive them (luckily! for they would probably have perished in the subsequent prolonged drought in the shallow soil here), but, just to fill the borders for the time being I planted bulbs and sowed annuals. The result was such a surprising wealth of colour and continuous quantity to gather and to give away (one of the greatest joys of a garden), that I have decided to continue chiefly with A's and B's—to wit, annuals and bulbs. Why not? The bad old "bedding plant" days had some advantages. The beds were entirely dug up twice a year, and so all weeds were kept under and the soil could be cleansed and renewed. So shall my annual flower beds be treated! I can easily escape the tedious monotony of "bedded" borders by varying the annuals so as to have a continual succession all the year round, especially by providing some more or less permanent edgings, or, preferably, clumps of foliage, such as the silver grey of old-fashioned white Pinks for my fragrant border (this was a distinct success last year), and, perhaps, golden Pyrethrum, and certainly curled Chervil for others. Chervil is so accommodating (a "most reasonable plant," as Mr. Allwood would say), it will grow almost everywhere and keeps such a bright, cheery bit of fresh green through the

winter that, though its "proper place" is in the kitchen garden, I use it in my flower beds, and if they be further planted in late autumn, with some of Barr's variegated Kales, they will "carry on" from the Old Year into the next New One, till Aconites appear. The small cost of annuals, compared with "bedding plants," to say nothing of good clumps of perennials and the difficulty of obtaining these latter, is also a consideration, for if any annuals fail, it is not a serious loss, but can be "made good," generally, in a few weeks. There are plenty of tall things among annuals, and, of course, pillars of climbers can be arranged for. Sweet Peas were usually thus grown fifty years ago, so that annual borders need not be dumpy and dwarf. Some say "annuals are so short lived," but, apart from "bedders," if you come to consider the majority of perennials, you will find most of them, only flower for about three weeks in the year. Annuals have actually a longer flowering time upon the whole if sown thinly, allowed space to do their best, not "jammed together," as I

meaning the Oxeye Daisy, and some other plants; while Lucken Gowans were Globe Flowers. Gowan, then, is the Lowland Scotch name for the Irish and Gaelic "Gugan," a Daisy, a bud or a flower. The Gaels have so many words for the same thing that they have forgotten many of them. The European Globe Flower is not included in "Gaelic Names of Plants," by John Cameron, under any name, although the plant is plentiful in wet meadows and on the river banks in the Highlands.—HORTULANUS.

AN EASY AND FRAGRANT PLANT.

I DO not think that sufficient use is made to-day of the quaintly fringed and gloriously fragrant *Dianthus superbus*. Less neat and tidy than the Cheddar Pink (*D. cæsius*) it may be, but, apart from its charming and characteristic fragrance, it has a certain distinction quite wanting in many of the commoner rock Pinks. By the way, can any reader tell me the real difference between the



TUMBLING MASSES OF FRAGRANCE—DIANTHUS SUPERBUS.

grieved to see some in Hampton Court gardens the last time I went there. And, only think of it! What a delightful variety of fresh effects I shall be able to devise and enjoy every year! Yes! I feel sure that for children and for old folks, annuals are *the* thing! Where are those new seed catalogues? Let me begin at once to make out my list of orders!—ANNE AMATEUR.

GLOBE FLOWERS.

THE discussion of the names given to the Globe Flower on pages 69 and 96 are interesting from the fact that they show how changes come about when we try to read meanings into names that had their origin in a language foreign to our own. Linnaeus' name of *Trollius* is said to be derived from the old German word *bol*, meaning a globe. The translation of this gives us Globe Flower, which we can understand. Locker goulus, Lockin Gowan and Locker Gowans are spellings of words that have been handed down to us by many generations of people trying to read meanings into the names. The first part of the name is evidently English. The word "Gowan" is the Lowland Scotch word for the common wild Daisy. The same people speak of Horse Gowans,

old Maiden Pink (*D. deltoides*) and *D. graniticus*. Are the plants of the latter usually sold misnamed, or has the difference between the two species (?) become obliterated as with Duke of York and Midlothian Early Potatoes?—H. H.

ST. FIACRE.

[Many correspondents have written to explain, on various authorities, that the original *fiacres* were sent out from a hotel, hostelry or lodging-house which displayed a sign depicting, or a statue representing, St. Fiacre.—En.]

"THE GARDEN" AS A BOOK OF REFERENCE.

"THE GARDEN" for last year cost me 3s. 6d. to get bound, and it cost me a little over half that until about the second year of the war. No one book can equal a few—only a few—volumes of THE GARDEN for the helpful information contained in the varied experiences of different contributors, when I want to learn about any particular species and its treatment, to avoid, if possible, beginning with a failure—V CALDWELL.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Seed-Sowing.—This operation must be guided to a great extent by the weather and the nature of the soil to be dealt with. On one point no doubt whatever need be felt, which is, never be in too great a hurry to sow. When the soil is cold or sticky it is much better to wait another week, or, if that be not considered practical or expedient, it may be possible to try to arrange a sowing of some of the more pressing items in skeleton frames. Among seeds to be sown about this time and which may be accommodated in temporary quarters and then pricked out or transplanted we have Brussels Sprouts for main batch, more Lettuce, Cauliflowers and Cabbages, and, should the ground be quite unfavourable, more Peas and Broad Beans to serve as a succession. As soon as the soil is dry and workable, sow seed on a warm border of a few more Early Horn Carrots, Spinach and a few more Turnips, not forgetting Parsley, which should be sown in a convenient spot for quick and easy gathering.

Frame Work.—Give early attention to young Carrots and Turnips, and thin as necessary. It is quite unnecessary where there is a brisk demand from the kitchen to do much Carrot thinning, as that can be done quickly enough when the roots are of useable size, leaving the weakly ones to develop as a follow-on crop. Turnips, however, must be thinned to several inches apart, and this should be done early. It will be helpful with these crops, as with other early ones, to stir the soil a little and air freely when climatic conditions are favourable.

The Flower Garden.

Sweet Peas.—An outside sowing of this indispensable annual should be made now in thoroughly prepared positions. These plants will give a good supply of cut flowers or provide a display to augment the earlier plants which have been raised under glass and which must be planted out before becoming drawn. Where a show of Sweet Pea blooms is required in several positions over an extended period it is a good plan to allow of sufficient room for some seeds to be inserted thinly among the earlier plants when placing them in their permanent positions. These two operations may be done at the same time.

Cannas are extremely useful in the flower garden, and may also be termed adaptable inasmuch as they may be used to good purpose in the more formal portions as well as the less formal. A well placed bold bed of plants of good colour among which are some well developed spikes of *Lilium tigrinum*, *Fortunei giganteum* variety, is an excellent autumn attraction, particularly so if near water, as the added beauty of reflection may be enjoyed. The plants having been at rest should now be potted up in suitable-sized pots and grown on in a gentle moist warmth until nicely established.

The Hardy Fruit Garden.

Bud Protection.—Small birds are often troublesome among the buds of Gooseberries and Red Currants just as they are plumping up, and as netting is a somewhat elaborate check to bother with, some more easy and simple method may be found sufficient, such as spraying or dusting the bushes with soot or lime when they are a little damp, or by syringing the bushes with some approved insecticide, recommended for the purpose, which will render the buds distasteful.

Apricots.—The blossoms of the Apricot are usually the first to greet us among the outside fruits, and their early opening renders them extremely liable to damage by frosts. See that a protective is in readiness for immediate use, such as thin blinds, or, where this cannot be arranged for, stretch a double thickness of netting over the trees. An isolated tree can be dealt with by having a few light evergreen boughs placed among the apricot branches.

Fruit Under Glass.

Late Vinerias.—As soon as the buds commence to swell the bushes should be kept closer and similar treatment afforded as for earlier Vines. On cold nights it will not be necessary to introduce much fire-heat for a start, but a warming of the pipes creates a genial and favourable atmosphere. Any top-dressing of the borders contemplated should be done at once.

H. TURNER

(Gardener to the Duke of Northumberland.)
Albion Park Gardens, Guildford

The Kitchen Garden.

Early Turnips.—Immediately the ground is suitable, small sowings of early varieties should be made. Select a portion of the garden where the soil is light and warm. Stiff, clayey soil is not suitable for the production of Turnips of fine quality. Sow in drills 6 ins. apart and about 1 in. in depth. Cover the seed lightly, running the rake over the bed to give a neat appearance. Early Snowball and Early White Milan are excellent sorts for a first crop. After the young plants appear an occasional dusting with soot will prove a deterrent to the ravages of slugs or birds. Keep a number of feathery Spruce branches at hand for convenience in covering the bed should late frosts prevail. This precaution often saves the early crop and precludes the likelihood of stringy bulbs so readily caused by the growth being checked.

Vegetable Marrows.—Seed should be sown now so that a number of plants may be available for planting on partly spent hot-beds and thus ensure an earlier supply of Marrows. For frame work the small fruiting varieties are preferable, maturing more quickly and proving of more adaptable size for kitchen purposes.

Peas.—Sow seed at regular intervals for succession, using second early varieties at this time. Gradus and Early Morn are Peas of high quality and heavy croppers.

Asparagus-Beds.—Clear off the rougher portion of the winter litter and give the beds a dressing of salt. Top-dress with fresh soil, and make trim by digging and reforming the alleys.

Autumn-Planted Cabbages.—Give these a pinch of sulphate of ammonia, afterwards running the cultivator through between the rows. This will be found considerably to accelerate growth.

Fruit Under Glass.

Vines.—Continue to disbud as required, reducing to one on each spur as soon as the bunches are visible. Growth will then be more noticeable, and an increase of warmth may be given so that full and proper development of the bunches may be ensured. Exercise care in tying down the laterals, and stop same at the second leaf beyond the bunch. Where the Vines are in flower keep the atmosphere fairly dry. Give the rods a sharp tap about midday so that pollination may be assisted.

Peaches.—In the earlier houses disbudding and thinning of the fruits will be the principal work. Do not thin too severely, as there is always a likelihood of a number of fruits being cast after the stoning period. In disbudding the young growths leave one or two near to the base of each bearing branch as possible, tying each shoot carefully as growth develops. Syringe freely morning and afternoon, taking the chill off the water before using. Test the border occasionally to see that root requirements regarding moisture are not neglected. Until the stoning period is past the day and night temperatures should be 65° and 60° respectively.

The Flower Garden.

Sweet Peas.—Make a sowing in the open now on ground which has been given generous attention during the autumn. Sow thinly and thus encourage sturdy growth. Dust with soot immediately the seedlings show through the ground and so guard against the ravages of slugs.

Carnations.—Where plants of these have been wintered in frames they must now be transferred to their flowering quarters. Carnations greatly enjoy the addition of wood-ash or burnt refuse to the soil, so where this is available have it lightly forked in when preparing the bed. Seedling plants growing in nursery borders should also be moved to the flower garden at this time. Layers may be planted about 12 ins. apart, but more space must be allotted those raised from seed, as they are generally larger plants and of more vigorous growth.

Clematis.—Among hardy climbers no plants equal the Clematis in variety or beauty. From now till the end of March is a favourable time to plant. Being gross feeders, they revel in ground that has been enriched with well rotted manure. Should the natural soil be devoid of lime, some old rubble should be added. *C. Jackmani* is eminently suitable for arches or pergolas, and should be pruned hard back this month. *C. lanuginosa* is a most charming plant, flowering

from July till October. This variety flowers from the previous season's wood, so only requires thinning and tying in of the young growths.

JAMES McGRAN,

(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock.

CONSERVATORY AND GREENHOUSE.

Chrysanthemums.—Cuttings of varieties suitable for growing in small pots should now be rooted. They are invaluable for furnishing the stages of the conservatory as well as for decoration in the dwelling-house. At this time the cuttings can be readily rooted in a cold frame. They should be potted on until they are in their flowering pots, 6 in. pots being a suitable size. They should be stopped or pinched several times to induce a bushy habit, and well grown specimens should carry about nine to one dozen shoots. When well established in their flowering pots they require strict attention as regards watering and feeding if they are to retain their foliage right down to the pots. For this method of cultivation it is important to grow the right varieties, as all sorts are not suitable for this work. All the Caprice du Printemps type are excellent for this purpose, Kathleen Thompson being one of the best of the set. Other good varieties are Baldock's Crimson, Blanche du Poitou, Framfield Pink, Heston Pink, Heston White, Lady Stanley, Middle L. Charvet, Market Red, Soleil d'Octobre and Yellow Cheer. Some good singles are Mrs. Buckingham, Ladysmith (still one of the best for this work), Joan Edwards, Kitty Bourne, Caterham Bronze, Mary Morris, Queen Alexandra, Sussex Yellow and Daret's Jewel. The latter variety should be grown three in a pot, as its habit is rather slender. Earlier-rooted varieties should be potted on as they require it.

Streptolol Jamesoni is worth planting out in a sunny position in a cool conservatory. One hears frequent complaints that this plant does not flower freely, but this is usually due to the fact that it is not freely exposed to plenty of sunshine. It is easily propagated by means of cuttings, and makes fine large specimens if grown on in large pots.

Begonia manicata.—This beautiful winter-flowering Begonia is a very old garden plant, being introduced from Mexico in 1842. By present-day cultivators its merits do not seem to be fully recognised, and when seen its cultivation seems to be misunderstood, at least when in flower; then one generally sees it in a stove temperature, in which the flowers come pale in colour and only lasts in flower for about three weeks. On the other hand, if the plants are placed in a conservatory—when the flowers commence to open—with a temperature of 45° to 50°, they come a beautiful colour and last in flower for three months. It is easily propagated by means of cuttings during April or May, and should be grown in 7 in. pots the first season, when it is useful for furnishing the stages. If grown on in 10 in. or 12 in. pots the second season, it makes large specimens some 6 ft. high with great sprays of rosy pink flowers. There is a variety with maculated foliage and another with wonderful crisped leaves.

Begonia coccinea is another fine greenhouse Begonia which makes a fine large specimen, and is very beautiful if it can be planted out and trained under the roof glass. Begonia President Carnot is seen to best advantage when grown in the same way, although *B. Luzerna*—somewhat resembling *B. President Carnot*—is a much better plant for the greenhouse, and is very fine when planted out and trained up a pillar. The old and beautiful *B. fuchsoides* is also seen to best advantage when planted out and trained against a back wall.

Hibbertia dentata.—This beautiful evergreen greenhouse climber has been in flower for some weeks now. Its dark yellow flowers, which are some 2 ins. in diameter, are very striking. The plant is easily propagated by means of cuttings or seeds, and it usually ripens plenty of good seed.

Hidalgoa Wercklei, generally known as the climbing Dahlia, is another beautiful greenhouse climber, but does not flower freely unless it is allowed full freedom of growth and full exposure to plenty of light and sun.

General Work.—Prick off seedlings of all sorts before they become crowded. Rooted cuttings should also be potted off before they become drawn and weak, shading them from bright sunshine until they get away at the root.

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WITH Eastertide but three short weeks in front work in the garden takes on even greater urgency. The planting season made a very late start, and although the winter has, on the whole, been propitious, there are many planting programmes yet incomplete. Fortunately the lengthening day and the advent of "Summer Time" on March 26 allows overtime to be worked, but the pressure of routine tasks greatly curtails the time which can be devoted to new planting and alterations.

The Inter-nodal Cutting.—It is rather strange that so many otherwise excellent amateur gardeners take it for granted that all cuttings should be taken immediately below a joint (or node). Carnation and Pink pipings form an exception with which many amateurs are familiar though these are not, properly speaking, inter-nodal cuttings or indeed cuttings at all. Quite as good, if not better, results may be obtained from cuttings taken at the joint in the usual way and, of course, split to provide a surface for the roots to break from. Inter-nodal cuttings are essential if good plants are to be obtained of Fuchsia, Coleus or Tuberous Begonia. They are also largely utilised to propagate the various species of Bamboo. They are easier to make than the nodal ones so that the preference of some plants for this form of propagation should be rather a matter for congratulation than otherwise.

The Bedding Zonal.—The Zonal Pelargonium or Geranium, as it is still often called, is not used for bedding-out to anything like the extent it was even in 1914; certainly but a very small fraction of the number of plants are now employed for this purpose which were utilised, say, two or three decades ago. The "Zonal" has, none the less, its uses and it often happens, at this season, that the gardener would like a rather larger stock than he in fact possesses. There is still time to remove and strike the tops of strong and established young plants or, of course, to take more cuttings from stock plants. If the cuttings now to be rooted are to produce plants serviceable at bedding-out time, it is, however, essential that their natural resources be conserved to the utmost, so that they may root quickly and grow away with all possible rapidity. A sharp

knife should be used carefully to remove the scales which protect each joint, but no leaves whatever should be trimmed from the cutting before insertion. The petiole of the bottom leaf and possibly of the second one will be buried in the rooting compost and the bottom leaf may, very probably, wither before rooting is complete, but it will, in the meantime, have assisted very materially in the establishment of the young plant. The actual striking must take place in a clean sharp medium, but, once rooted, the young plants should be transferred without delay to zin, pots filled with moderately rich but not too light compost.

Drought and Fertility.—Should the present season be at all normal, gardeners may hope to derive benefit from the unfavourable conditions which prevailed last summer. It is generally accepted that drought has a fertilising action upon the land, a fact which is utilised by the farmer in his system of working fallows. Quite apart from

A Charming Anemone.—Some time before our native wind-flower makes a carpet for Nature's mass-planting of Bluebells, colonies of the bright blue *Anemone blanda* will have made beautiful the gardens where it is employed. The knobby root-stocks of this beautiful blue species do not produce the masses of flower and foliage which characterise the Appenine species some weeks later, but if planted thickly they form a rich blue carpet very beautiful to behold. A soil containing a large percentage of leaf mould suits them best and also a little shade is appreciated. If care is taken in weeding among them hosts of self-sown seedlings will augment the colony, but it is perhaps better to collect as much as possible of the seed, to sow it in pans and to place it in a cold frame where it will then germinate comparatively quickly. Should the seed be kept if only for a week or two it will probably take a full twelve months to germinate it. Some of the seeds will, in any event, self-sow themselves, as, in common with most other genera

of the Ranunculaceae, the *Anemones* quickly shed their seeds when these are ripe. The same precautions as to seed saving and sowing apply also to the Appenine Windflower (*A. apennina*) and to the *Hepaticas* (*A. Hepatica* and *A. angulosa*), of which the latter is larger and finer than the well known old favourite, but tends to be a little later to flower. There are several very beautiful forms of *Anemone blanda* but though easy to grow and very beautiful they are comparatively seldom seen in gardens. They range from pure white to velvety purple and include rose shades. Perhaps the most remarkable is the variety *scythinica* of which the blossoms are white within, blue without, thus producing an effect



MOST WELCOME AT THIS SEASON—THE AZURE PLATTERS OF ANEMONE BLANDA.

this, many gardeners will have noticed that dung applied to the soil rather late in the winter of 1921-22 has hardly disintegrated at all, so that they may expect to derive some benefit from it during the coming summer. It is probable that other not over-rapid fertilisers, such as basic slag, bones and "super-phosphate," were appropriated to a far smaller extent than usual. The winter has been favourable and vegetation now is backward—always a healthy sign—so that the gardener has every right to look forward with renewed hope to the coming season.

comparable to that of *A. nemorosa* *Robinsoniana* but with a stronger contrast of colour.

The Rock Garden will, in a very few weeks, be at the summit of its glory. It behoves the plant-lover now to go over his treasures and to see that choice plants are not in danger of being smothered by more rampant species nor choked by insidious weeds which have established themselves in crevices from which they can only be dislodged by pulling down part of the rock-work. Any "tidying up," however, should be done circumspectly or the natural appearance of the garden will be destroyed

SPRING TREATMENT OF LAWNS

How many lawns of all sizes lack that finish which makes a well kept English lawn the admiration of the world.

THE season has come round when the lawns claim a good deal of the gardener's attention. There is nothing so essential to a restful and satisfying flower garden as a well kept sward. Whether this takes the form of one or more fairly extensive formal lawns, suitable, it may be, for lawn games; whether the sward be quite informal in shape, contour and arrangement—a restful stretch of verdure leading the eye to the surrounding planting; or finally, even though, as must be the case in many small gardens, the turf is only used to form paths between beds and borders, it is of the utmost importance that it be well kept.

Even on a lawn which makes no pretence to being level, which in fact swells gradually to embrace the plantings which surround it, local hollows, such as are occasioned by uneven settling of the sub-soil, are very objectionable both to see and to walk over. There is still time to lift these patches to make up and to relay; but the

work must not longer be delayed. Most troubles with lawns, apart from the grass dying away in shady positions—of which more anon—probably originate from bad making in the first instance. An exception to this statement is debility in old lawns brought about by neglect. A symptom of the conditions subsisting is, of course, the presence of moss. Scarifying the surface to aerate the clogged-up soil and a dressing of good lawn sand will often work wonders, but it is advisable to take steps to supply more permanent nourishment by dressings, during the following winter, of bone meal and horse dung. It has become fashionable to recommend basic slag for renovating lawns. This is very effective if a strong plant of Clover is wanted, but it is to be feared that many people apply this particular fertiliser without realising this or wanting Clover in the least. Clover is, of course, intolerable in a tennis lawn, since it stains the balls so badly; but, in addition to this, it gives a patchy appearance

to the sward. It is sometimes recommended because it remains green in drought, but as it is not possible to get it to form an even carpet, the green oases merely serve to accentuate the yellowness or brownness of the cloverless patches.

It occasionally happens that a very old lawn will quite fail to respond to any less drastic treatment than relaying. In such case it is necessary to remove and to replace by new the soil to a spade depth. It is probable that such worn-out lawns have, at some time, been maltreated. The roller has with many gardeners become a fetish. They appear to think that the roller is an efficacious tool for removing local inequalities. To have any such effect it must necessarily be applied when the lawn is really wet, and any levelling it effects, which is small, is effected by undue compression of the soil. Lawns so treated do not, as a rule, grow a good type of grass, and they are not seldom infested with moss. Obviously, no surface application of fertilisers can correct a want of porosity in the soil. After the winter, especially in districts where much frost has been experienced, a certain amount of consolidation is, of course, necessary, and this is best applied with the roller, but care should be taken to see that the lawn is not over-wet.

Unless reserve turf is grown to repair bare places, which is very seldom the case in private gardens, it is now too late to patch with turves; but if good seeds be procured from a reputable firm to whom the peculiarities of the soil have been explained, this will be no hardship. Where re-sowing is to be carried out, the surface soil should be broken up several inches deep, but unless it has been much trodden when bare and so soured, it will be better not to replace it, as new soil so brought in oftentimes is full of pernicious weed seeds. Always sow lawn seeds thickly—2 ozs. to the square yard is a fair quantity to allow. Protection from birds must be afforded, either by the use of black cotton stretched back and forth across the re-sown patch a few inches from the ground, or, if, owing to the size of the re-sown area, this is impracticable, by some form of bird scarer, such as feathers or red twill on strings.

Thin places may generally be renovated without re-sowing if a suitable chemical manure be applied. The composition of this should vary considerably with the class of soil. Several firms now make a speciality of lawns, their grasses and several requirements, and the special fertilisers they supply for different soils may be relied upon.

Lawns mossy through poverty have already been described and the simple treatment necessary to eradicate the moss, but where the trouble comes, as it often does, from insufficient drainage, the case is different. It is now too late, however, to undertake drainage operations, and a dressing of lawn sand, though only a temporary measure, will more than repay its cost in the improved sward and easier cutting during the present season.

From now onwards much time will necessarily have to be devoted to mowing. The more closely mown the sward is kept, the smaller the chance that coarse, undesirable grasses have of persisting. The finer lawn grasses tiller and seem to luxuriate under the lawn-mower, but this is far from being the case with the coarser grasses more appropriate to meadow land. Even here, however, a word of caution is necessary. The lawn-mower should not be used when the grass is wet. Were this



MUCH OF THE CHARM OF THE GARDEN ALWAYS CENTRES IN BEAUTIFUL GREENSWARD.

point borne more steadfastly in mind, many of the worn-out patches seen on lawns would be things of the past.

It is quite impossible properly to maintain a lawn without an efficient lawn-mower. Where the sward is of any extent it may probably prove profitable to employ two types. The roller type has the advantage of rolling as it cuts and does not damage the surface of the lawn when it is on the soft side—as already explained, lawns should never be cut when really wet. Moreover, the roller machine cuts easily to the extreme edge of the lawn, whether against beds or paths, which, without a special and not over-satisfactory attachment, the lighter type of machine without a front roller cannot do. It may well be asked what possible service, where the heavier type is available, these lighter machines can render. As

a fact, where there is any extent of lawn to traverse, they are very useful, especially when the lawn is quite sound and dry in summer-time. They are much lighter not only in dead weight, but in draught, and whereas, in a good type, the driving wheels are large, an exceptionally good speed is imparted to the cutters, so that, under the conditions described, it should be as easy to push a 17in. high wheel American pattern machine as a 12in. one with the front roller, and this without any loss of efficiency.

The besom which, at this season, should always be applied to spread worm-casts before rolling or mowing commences will also serve, if thoroughly applied, to remove the small stones which play havoc with the perhaps newly-ground cutting cylinders of the machines.

WATER-LOVING HARDY PRIMULAS

The comparative values of the better species and varieties are discussed, and a cheap method of procuring a stock indicated.

P RIMULA JAPONICA was for years in a class by itself as a hardy, bog-loving Primula. Hardy as the proverbial Cabbage and obtainable ultimately in a variety of colours—deep crimson, bright rose, pale rose and a not too pure a white—it was indeed a valuable plant for wet ground, especially by the waterside. One still remembers how fine we thought it until the advent of the stately *Primula pulverulenta*. Similar in its typical colour—a deep wine-crimson—the newcomer made the thick-set *P. japonica* look unbelievably plebeian, for it had an “air” not easy to describe. Taller than the longer known plant, more slender of stem and its stems heavily clothed with white farina, with a graceful arch to the foliage instead of the healthy, but not engaging, leaves of the Japanese plant, and a beauty of form and spacing about individual blossom, whorl and spike not possessed by the other, little wonder it made an impression.

Many new plants have since been introduced, but in its special sphere *Primula pulverulenta* still reigns alone. In one way only is it inferior to *japonica*—very seldom does it reproduce itself from self-sown seeds. It succeeds in a fair amount of shade; even “drip,” so deadly to many plants, appears not greatly to trouble it. Flooding in winter with several inches of water, it seems not to resent at all.

Probably the upsetting conditions involved in a total change of environment may have stimulated it to sport. Certain it is that it had been but a little while in commerce when a blush pink form revealed itself and was christened Mrs. R. V. Berkeley. This plant is sometimes described as cream or even white flowered, but it assuredly neither is nor was (the writer saw the plants to which the R.H.S. award was given) either one or the other. A little later a sport of a much deeper shade of pink with a hint of cerise in the colouring made an appearance. This had (and has) an orange eye instead of the yellow one characteristic of Mrs. R. V. Berkeley. This form, which is more robust than the paler one, received, some years ago, a first-class certificate from the National Auricula and Primula Society under the name Lapworth Rose. It does not seem yet to be as well known as it should be, or, rather, it is often confused with the older and paler form.

It is a pity that more selection is not usually attempted with hardy Primulas. To take *P. pulverulenta* as a case in point, by re-selection it is possible immensely to improve one's strain,

both as regards colour and form of blossom. There is no white form of this plant so far in commerce, but the writer predicts that when, sooner or later, one turns up it will be a pearly white as unlike

of lilac and somewhat pulverulent stems, is not so fond of water as those already mentioned, nor is it in itself a particularly valuable plant, albeit the parent of some pretty hybrids, mainly with *P. Bulleyana*.

The Sikkim Cowslip, *P. sikkimensis*, is another water-loving species of, unfortunately, little more than biennial duration. A patch of it is, however, worth a little trouble, for the sulphur yellow bells are very beautiful.

Yet another crimson-purple species calls for attention. This is *P. Poissoni*, another of the whorled (*Candelabra*) section, which has glossy, slightly toothed leaves quite distinct from the rather Primrose-like foliage of all the others so far described. The flowers, too, approach more nearly to magenta than do those of *P. pulverulenta*. Growing only to a height of 12ins. or so, it is a valuable plant for a damp corner.

Most gardeners know the beautiful *Primula rosea*, but it needs shade and a cool root-run rather than superabundant moisture, though it will tolerate a fairly damp soil. Rose is a variable colour in gardens. Very seldom is it applied to so bright a shade as gladdens the eyes that rest on *Primula rosea*. (Contrast this colour with a rose-coloured *Pyrethrum*!) This plant also has smooth leaves, a peculiarity it shares with the quiet but beautiful *P. involuerata*, also a water-lover, which, on 6in. or 8in. long stems, bears



MASSED PLANTING OF PRIMULA PULVERULENTA MRS. BERKELEY, WITH THE TYPICAL CRIMSON PURPLE FORM BEHIND.

the white *P. japonica* as the translucent pink forms are to the rose form of the “Japanese.”

Of the other water-loving Primulas the best is, perhaps, the clear yellow *P. helodoxa*. Though it lacks subtlety of colouring, it is remarkably effective when massed. It, too, has slenderness and dignity, though it wants the imperial carriage of *P. pulverulenta*. Why, one wonders, may not this latter plant have an English name? More subtlety of colouring attaches to the gold tinged apricot tiers of *P. Bulleyana*, but as a plant it is not too attractive. Save that it flowers a little later, it might be just a colour form of *P. japonica*. The still later flowering *P. Beesiana*, with flowers of some crimson hue with a varying admixture

umbels of flowers of bluish white or palest lavender.

Of the orange-vermilion *Primula Cockburniana* little need be said, since it does not like super-saturated soil and is only a biennial. It is mentioned here because it crosses readily with *P. pulverulenta*, and the resultant hybrids in varying shades of terra-cotta-red breed approximately true. The first crosses were called respectively Lissadell Hybrid and Unique, according to the pollen parent. Lissadell is a little freer flowering; Unique a little larger in the individual pip and a thought the better colour. Various slight differences of shade have now been selected and sent out under fancy names, but anyone who

has the two species can easily make the cross and raise numbers of plants himself.

It is difficult, if not impossible, to cross *P. Cockburniana* with *P. Bulleyana*, for instance; but if the attempt is made (*Cockburniana* being the seed parent) and seeds are obtained the majority will be typical *Cockburniana*, but a few will almost certainly resemble *Cockburniana* as to colour, though perhaps a trifle richer in tint, but will be more vigorous in appearance and growth, will throw far fewer, but much stouter, spikes and considerably finer flowers and be more truly perennial in character. No one, it is to be feared, has so far succeeded in perpetuating this fine form.

There will not be wanting critics to ask the reason for an article on these *Primulas* at this

season. Read, then, and perpend! If plants be procured now and placed in a cold frame or cool greenhouse and repotted if necessary, it should be possible, with the aid of a camel-hair brush, to obtain from a very few plants quantities of excellent seed which, if sown immediately it is ripe, will germinate like Mustard and produce numbers of plants to give a fine display for next season. Seed may, of course, be obtained from plants in the open, but it is easier to make sure of satisfactory pollination under cover.

None of these water-loving *Primulas* really needs the presence of water or even of bogland. All will flourish in cool, well cultivated soil on the shady side of a shrubbery, though they may, even there, require watering in an exceptional summer such as we experienced last year.

PRUNING BEDDING ROSES

No pruning will correct indiscriminating Rose planting. Each variety has its characteristic habit which may not be overcome.

UNDOUBTEDLY the best instructions for pruning Rose trees are those contained in the "Select List of Roses," issued each year by the National Rose Society. It would not, in any case, be possible in the course of an article in a gardening journal to give pruning instructions for each variety of any importance as is done in the book mentioned. Not that the instructions there given are perfect or complete, but they represent the best so far attained in this direction in an imperfect world.

Not all readers of THE GARDEN are, in any case, members of the N.R.S. Those who are will kindly, from the height of their superiority, forgive the elementary directions which follow, even though, as may happen, they find no new suggestions.

The time has now come when Hybrid Perpetuals and, in the Southern Counties, Hybrid Teas, may be pruned. A great deal of the bad pruning which one meets is due to ill-thought-out planting. Selection only by colour and quality and quite regardless of habit will place a bed of Hugh Dickson, for instance, between *Mme. Ravary* and *Ophelia*. To prune Hugh Dickson as it should be pruned gives a most uneven immediate effect and this unevenness is accentuated throughout the season. Hugh Dickson is a robust and excellent Rose, but it is not suitable for bedding and the same remark applies to many other strong growers. Frau Karl Druschki comes to mind as a flagrant instance of a Rose quite unsuitable for bedding in association with other varieties, and it is very doubtful whether even that old favourite *Caroline Testout* is not too tall for the purpose, as well as the salmon pink *Joseph Hill*. Neither of these varieties lend themselves to pegging down—a course which may be adopted with the Hybrid Perpetuals.

Now as regards the actual pruning of bedding Roses which, if well selected, will almost certainly, with the possible exception of *Lady Hillingdon*, belong to the Hybrid Tea and *Pernetiana* sections. All dead and unripe wood should first be removed. This latter will very probably be the thickest wood in the tree, being strong wood thrown up from the base late in the season. It corresponds roughly with what in fruit trees are called "water-sprouts." Any unduly thin wood had better be removed at the same time. The careful pruner will now take a survey of the tree before he commences to prune, since in bedding Roses the shapeliness of the tree is an important consideration. Having selected six or eight shoots (if there are so many), which are quite sound and healthy and which leave the

centre of the tree a little open, they should be cut back to from four to eight eyes of the base from which they started, always bearing in mind that the weaker the tree, the harder it should be pruned.

Some varieties are shorter lived than others. Moreover, really good Rose soils make for longevity. The bulk of Rose growers, however, have anything but ideal Rose soils, so that they must expect to have a good deal of re-planting to do. When the growths of a tree become more and more spindly the only remedy is replacement. Many gardeners always keep a few plants of each variety in the Rose garden by them in pots to fill inevitable gaps at pruning time or later.

The *Pernetiana* varieties are invaluable owing to their colouring, but it is wise not to employ them for bedding more than is necessary as they rather resent hard pruning and under bedding conditions are not long-lived. Perhaps the newer sorts will not suffer in this way as much as did those first introduced, but even the universally and deservedly popular *Mrs. Wemyss Quin* is not free from this defect. It is far stronger and happier when allowed to develop into a large bush. The following recognised bedding varieties call for hard pruning—to say four or six eyes from the base of the shoots—*Augustus Hartmann*, *Château de Clos Vougeot*, *Geo. C. Waud*, *Mrs. A. E. Coxhead*, *Mrs. C. Russell* and *Richmond*.

Where there are two rows of beds on each side of the garden or an extra row at the end or ends, it may be possible to utilise taller growing sorts on which a foot of growth may be allowed on new bottom wood and four or five eyes may be left on any laterals upon two year wood retained. Varieties suitable for this purpose and treatment are *Caroline Testout*, *Commandant Felix Faure* (H.P.), *Donald McDonald*, *Frau Karl Druschki* (H.P.), *G. Nabonnand* (T.), *Hugh Dickson* (H.P.), *Joseph Hill*, *La Tosca* and *W. C. Clark*.

The pruning of the dwarf *Polyanthas*, so popular now for bedding, is for this purpose very similar to the H.T. and T. sections, except that, as they are thin growers, more shoots may be retained and these cut over quite close—within two or three eyes of the base. This will give the dwarf effect generally worked for. If there is no desire to keep them down, little pruning need be done other than the removal of the spent (and eyeless) last season's bloom trusses. This pruning may now be proceeded with.

Since some folk like pegged-down Roses, it may be well, though the writer admits that he has no admiration for them, to explain the process, which certainly goes far to obtain new wood from the

bottom, which, incidentally, where pegged and naturally grown Roses are associated together, always forms a young forest, far taller than the vegetation in the other beds. For pegging-down then, all old wood should be cut away and the one year shoots left almost full length, right up to where the wood thins seriously or to where the buds have broken excessively, should this be lower than the thin wood. Tarred string is used for securing the growths to the notched pegs, which should be long enough when driven in to hold securely. About a foot is the usual length, but much depends upon the character of the soil. In some soil gin, pegs hold securely, in others it is almost impossible to persuade a peg to hold. Tie the string to the peg first and arch the shoot over to meet. If any attempt is made to lay the shoot along the ground it will snap off at the base. Some varieties, however, are much less brittle than others. Undoubtedly pegged Rose trees produce the greatest possible crop per plant, but the effect is, in the writer's judgment, much inferior to that obtained from beds of suitable varieties pruned in the usual way.

MIGNONETTE

"Here blossom red Roses, dewy wet,
And beds of fragrant Mignonette."

"Thistles and Roses."—ELAINE GOODALE.

THERE is the germ of a very attractive idea that I have several times seen carried into practical effect by sowing the ground between bush Roses with this old-fashioned fragrant annual. It is not a new idea by any means, but never, I think, have I seen a happier demonstration of the copartnership than in an old garden where a winding path meandered aimlessly along, with a narrow turf verge and a broad border on either side. These borders were filled with hundreds of choice Rose bushes: the time was July and the air a-quiver with blended perfume, in which the fragrance of the Rose and that of the *Mignonette* fought for ascendancy. One could not quarrel with the path for its lack of directness; indeed, the feeling was rather one of gratitude that one was permitted to linger a little longer in a neighbourhood so enchanting. One sometimes hears the plaint that *Mignonette* will not grow in this or that garden. The failure is due, in most cases, to the lack of knowledge of the would-be grower. Give the soil a good dressing of lime and the plant will grow and flourish as readily as Chickweed. Another way in which this grand old hardy annual is often very badly treated is as regards breathing space. Where only one seed falls and the plant can grow unhampered by the competition of its neighbours, it soon reveals the characteristic branching habit and spreads into a great plant, 2ft. or more across, and covered with dozens and dozens of the fragrant spikes. Dressed by nature in dull and unobtrusive colours, the plant is at no loss to advertise its presence, for, strolling in the garden after dark, one is made aware of its proximity by the all-pervading perfume that seems stronger than even at noonday. Delightful for cutting, it is, too, a favourite flower for draping the front of the window-box, and a room so furnished is always supplied with the distinctive and subtle perfume so charged with old association. Dry banks, old walls, gravel paths, between the interstices of a paved yard, anywhere, in fact, where the roots can find a hold upon a little soil and moisture, there is a potential home for the *Mignonette*; indeed, it often does better in such unlooked-for spots than in the rich, well-manured border. When sending

in an order for seeds one should not simply specify "Mignonette," for there is quite a large number of varieties, varying in colour and quality of fragrance. Covent Garden Favorite is a good one for fragrance, while there are also red, gold, orange and white sorts—this colour description

applying to the tips at the centre of the flower. Let the seeds be sown as though they cost 3d. each and there will be Mignonette in plenty of a size and quality never previously enjoyed where the plants have hitherto been given 6ins. of space in which to develop. H. W. CANNING-WRIGHT.

GARDEN ECONOMIES

Hardy flowers for summer bedding.

THERE is undoubtedly a widespread desire to reduce working costs in the garden. Old customs and conventions are, on every side, being crushed out of existence by excessive maintenance

charges. That there are many ways of economising applicable to gardens of all sizes without detracting from the general tone is not in doubt. Many of these have been exploited during the last few years, but more will follow. In regard to paid labour, it is rather difficult to draw the line at economy in working, as there is no room in a garden for a man without interest; and with many tasks, speeding up is at the expense of efficiency. Any saving where plant growing is concerned must be by way of dispensing with the superfluous. Economy with regard to bedding out has been engaging the writer's attention for some time. Where there is a large number of beds and borders to be furnished twice yearly, the work amounts to one of the most expensive in flower garden management. It is not, however, autumn planting that is costly, as the plants generally made use of are all raised in the open during the summer. It is the replacing of them in June where the need for economy is most felt, and where saving is possible. Those familiar with the raising of half-hardy plants for summer bedding out need no reminding that August finds them propagating numerous things which must remain on their hands for nine months, to the exclusion very often of more serviceable plants under glass. The cost of all this is greatly in excess of the results half-hardy plants can give, and in many cases is only allowed to continue in the absence of any practicable alternative method of hilling the beds. Roses have done much to lighten the working costs of the flower garden, but unfortunately their use entails a denial, on the ground they occupy of spring flowers, which is not desirable everywhere. Annuals provide another way of escape from wintering bedding plants, and the general effect is on a par with a scheme in which sub-tropical plants—

Geraniums, Lobelia, etc.—form the basis. It is rather surprising that Dahlias are not made more use of in the larger beds. The Mignon type grows about 15ins. high and leaves little to be desired. Even the taller forms have their uses,



SUCCESSIONAL SUMMER EFFECT IN A NARROW BORDER.
Gladioli amongst the golden yellow glaucous foliaged hardy *Tropæolum polyphyllum*.

Hardy plants have, however, proved to be the most labour saving of any, and the results have been satisfactory, as, when properly managed, the spring bedding display is not interfered with. Discretion in the selection of those kinds which best withstand transplanting is the secret of the whole system. The method is as follows: The month of May finds spring-blooming plants past their best before it has run its course. In the first week the hardy plants intended to follow are prepared for lifting by going round the roots at a convenient distance from the centre with a spade, and the ball is just loosened. This enables transplanting to be done with the least possible check. Once the beds are cleared, the soil is improved by

being liberally manured and deeply dug. The selected plants are then put in position, after being carefully lifted from their quarters with as much soil as possible adhering to the roots. In very dry weather it is advisable to fill the holes first with water. In any case a moist soil and firm planting is essential. When the time arrives for planting the spring bedding, the perennials are dug up and planted in a reserve plot for the winter. Some varieties may be a little impatient of removal the first year, but frequent transplanting encourages more fibrous roots, and afterwards they show little, if any, signs of distress. Of course, in many instances it is possible to plant bulbs, Wallflowers, etc., without removing the hardy plants, but this is a matter for individual taste. The system is eminently practical. It makes for no congestion under glass, and no trouble or expense all winter. As for the general effect, all depends on the plants made use of and the surroundings. In a series of strictly formal beds one might well utilise spring-sown *Antirrhinum* and annuals, reserving the larger ones for hardy perennials. As to these, it is some encouragement to know that one need not pass over many because of their early flowering, since most of the otherwise suitable kinds do not attain full beauty until midsummer or after *Pyrethrum* and *Doronicum* are the principal free-flowering exceptions. Nor is their use altogether impossible, as both form an excellent groundwork for *Gladioli* or *Cape Hyacinths*. A bed of this description is not surpassed by any combination of half-hardy plants. Others which will suggest themselves to those familiar with their habits include the *Geums*, especially the newer sorts, which are an improvement on the now famous *Mrs. Bradshaw*; *Gaillardias* and *Coreopsis*, associated with the scarlet-flowered *Lycnis chalcedonica*; *Artemisia lactifolia*, amid a setting of *Pentstemon* forms a novel but attractive picture. For Herbaceous *Phloxes* no praise is too high, and though *Delphiniums* are dwarfed by constant transplanting, the effect of good varieties is always pleasing. *Erigerons*, *Nepeta Mussini*, *Violas*, the dwarfier forms of *Helenium*, together with *Michaelmas Daisies* and Hardy *Chrysanthemums* by no means exhaust the list of hardy plants which may be employed with remarkable saving of labour. J. T.

THE IMPORTANCE OF THE SEED-BED

"Too much haste, no speed," applies, with great force, to seed-bed preparation.

THIS is a vital operation, upon which everything connected with the well-being of a plant depends. It matters not whether the seeds be of good germinating power or the stock of the very best strain; whether the plants receive the best of attention or are given the choicest site in the garden—if the seed-bed is not of the best construction, everything fails, because the plant is crippled and ruined from the very start, and a crippled plant is not the one that is going to afford the results desired of it. Many gardeners blame the seed, others the weather, the soil itself, insect pests, disease and other things, but it is very often the badly made seed-bed that militates against success.

In making up a seed-bed four things should be considered—site, soil, drainage and weeds—each of which has a remarkable bearing upon the success or non-success of the seed-sowing operation.

First the site. It *must* be an open one to start with; an overshadowed site is usually sunless,

cold, damp and insect infested. The neighbourhood of trees and shrubs should be avoided; but more injurious, perhaps, is the presence of lower-growing spreading plants, such as perennial flowers. One of the best of sites is a row across the allotment or vegetable garden. This applies to flower seeds as well as those of vegetables.

Beyond question the soil should be deeply dug and deeply manured, which makes for fertility and also for efficient drainage. Drainage should be attended to while treating the soil. Deep digging will often accomplish this, but it is best to put a few inches of brick rubbish or stones into the bottom, if possible. However that may be, the soil should be of the right sort. If it is stiff, clayey, or full of stones, it must be lightened by the addition of other materials, such as sand, road-grit, leaves, etc., and the stones removed. If it is of a sour nature it must be sweetened by the application of lime. If of light texture, some loamy, leafy soil should be incorporated with well rotted manure; this so far as the bulk of the soil is concerned. It is necessary also to have a fairly fine surface

on which to sow the seeds; and it will not be wasteful if a barrowload of a good made-up compost—loam, leaf-soil and sand—is spread over the existing surface to the depth of tin, or zins., for this will give the young seedlings that congenial rooting medium which the fine, delicate rootlets need so much.

A good start often guarantees a good finish, and a plant which thus finds itself born into a world that caters perfectly for its needs from the very starting point of existence will be enabled to gather the necessary strength to carry it through the succeeding stages of its life. A suitably prepared soil does this as nothing else can do.

Lastly, there are weeds to deal with; and weeds so often mean ruin to seedling plants. From the first, then, weeds should be vigorously fought against and rooted up, even if it means sacrificing some of the seedlings as well. (Plants never lose anything by being thinned, at all events!). After each successive weeding a very gentle syringing will settle the good plants into the soil again.

H. A. DAY.

EARLY-FLOWERING CHRYSANTHEMUMS FOR BEDS AND BORDERS

FEW plants that flower outdoors in late summer and throughout the autumn compare, for beauty and usefulness, with the Early-flowering Chrysanthemum.

This type of the Chrysanthemum is not cultivated for the production of large blooms of high quality for exhibition, but is exclusively grown to make a bright and pleasing display outdoors or to provide cut flowers for all forms of the floral decorator's art. Although the newer forms of the early-flowering outdoor Chrysanthemum are represented in many charming shades, they will not compare in regard to colour with the gorgeous hues of the more brilliant Dahlia; but then these Chrysanthemums are of hardier race than the Dahlia, and the Chrysanthemum blossom has a beauty peculiarly its own. The Dahlia flowers with the greatest persistency and one may cut and come again, day after day, without materially interfering with the general effect of the display outdoors, but the blooms do not long maintain their freshness. On the other hand, the Early-flowering Chrysanthemum gives but one crop of blossoms, and these in beautiful sprays that last for several weeks, and in a cut state for a considerable time. Often, too, these plants continue to make a display for a considerable period, if care in the selection of sorts be observed, so that by beginning with the earliest, continuing with the second early and completing the display by the inclusion in the selection of a number of varieties that come into flower in mid-October, it is possible, unless the weather be very unpropitious, to have Chrysanthemums in flower outdoors from late August until November. I have frequently seen Dahlias blackened by frosts while the Chrysanthemums have made the beds and borders bright with their profuse display, as they stand several more degrees of frost than does the more brilliant Dahlia.

Progress in the development of the Early-flowering Chrysanthemum has been very slow in recent years, and this, to the writer, is a matter of sincere regret. Twenty-five to thirty years ago, through the industry of a well known French raiser, M. Simon Delaux, an impetus was given to the cultivation of these plants, and for a few years subsequently thereto, with an occasional introduction from the European Continent and the efforts of one or two English raisers, a really

satisfactory collection was got together. Little appears to have been done in more recent years, however, to add to the list new and improved varieties: we seem now to be marking time. Strange to relate some of the more noteworthy sorts for border culture in general cultivation to-day are those distributed by M. Simon Delaux about thirty years ago. Mme. Marie Massé, a well known lilac-mauve sort, for which variety the writer was awarded the first-class certificate by the National Chrysanthemum Society's Floral Committee on October 8, 1895, was the forerunner of many excellent additions to the early kinds. The flowers of this variety were exhibited on September 25, but as no award could be made unless a plant was submitted to the Committee, this was forthcoming at the next meeting—October 8—when the award was confirmed. These facts are interesting in view of what happened subsequently; for Mme. Marie Massé produced sports, either directly or indirectly, of which the following record is worth noting: Ralph Curtis, creamy white; Rabbie Burns, rosy crise; Horace Martin, bright yellow; Crimson Marie Massé, chestnut crimson, passing to bronze; Ethel, primrose; Geo. Bowness, crushed strawberry (raiser's description); and Wells' Massé, white, slightly shaded blush. There are, therefore, at least eight sorts that have all sprung from the same stock, and I believe plants of all the eight sorts can be obtained from the leading specialists to-day. I give prominence to the foregoing family, as I have always regarded and still adhere to the view that plants of Mme. Marie Massé and its sports represent what is ideal in Early-flowering Chrysanthemums for border culture. The plants are profuse bloomers, possess a splendid branching habit of growth and enjoy a constitution that is truly perennial. You cannot kill the plants by the roughest treatment. Pieces may be broken out from the old crowns in the spring from which excellent plants may be made, or they may be divided up into numerous pieces, each with a few shoots. In the flowering season handsome sprays of blossoms are evolved, and each flower in the sprays has a useful length of foot-stalk. This set of plants does not take kindly to disbudding, and for this reason they should be grown quite naturally. The plants attain a height of from 2½ft. to 3ft., and they begin to

flower from early September and continue in flower, more or less, for fully two months. What more could one expect of a Chrysanthemum?

Other sorts which may be placed in the Japanese section, and which should receive consideration, are the following: Goacher's Crimson, large rich crimson, in flower during September and October, 2½ft.; Almirante, chestnut crimson, beautifully branching, September and October, 2½ft., should be in all collections; Howard H. Crane, bright chestnut, October (late), 3ft.; Leslie, buttercup - yellow, late August and September, 2ft.; Cranford Yellow, rich bright yellow, October, 3ft., partially disbud this variety; and Martin Reed, a beautiful golden yellow sport from Perle Chatillonnaise, late September and early October, 4ft.

Chaste white sorts should be represented by Roi des Blancs, a rather spare plant that produces the daintiest sprays of pure white blossoms in late August and September, 3ft.; Sanctity, also known as Candida and Excelsior, a large flower of the purest white, should be partially disbudded, September and October, 2ft.; and Framfield Early White, purest white (partially disbud), September and early October, 3ft.

Bronzes and terra-cotta shades are seen in excellent form in such sorts as Nina Blick, orange scarlet, passing to golden bronze, must be partially disbudded, sturdy grower, September and early October, 2½ft.; Polly, bronzy yellow, rather spare grower, September, 2½ft.; J. Bannister, lemon, shaded copper, late September and October, 4ft.; and Dolores, bronzy terra-cotta, early October, 3ft.

Pink, rose and kindred tones of colour are seen to advantage in Normandie, delicate pink, early September, 2½ft.; Cranford Pink, soft pink, must be partially disbudded, otherwise it is uninteresting, October, 3ft.; Improved Massé, bright rose, early September, 2½ft.; Mrs. Marshall Field, shell pink, end of September and October, 2½ft.; and Pride of Hayes, deep rose, October, 3ft.

Varieties of nondescript colour worthy of a place in the garden include the following: Dick Barnes, rich burgundy crimson, September, 2ft. Perle Chatillonnaise, cream, tinted blush pink, late September and October, 4ft.; El Draco, orange amber, October, 2½ft.; Chatillon, salmon and gold, very free, early September, 2½ft.; Mme. Casimir Perrier, creamy white, tinted pink, very free, September, 2½ft.; and Roi des Précoces, a distinct tone of velvety crimson, late October, 2½ft.

A few good sorts for growing in disbudded form—i.e., one bud to each shoot—should include Cranfordia, old gold, broad florets, October; Sanctity, purest white; Pink Delight, bright pink, early October, 3ft.; Southover Yellow (sport from Framfield Early White); Ena Thorpe, shell pink, incurving petals, September, 2½ft.; and Mrs. R. Hamilton, deep golden yellow, October, 3ft.

A few single-flowered sorts may appeal to some readers. They are Merstham Glory, crimson; Mrs. C. H. Curtis, velvety crimson; Brazier's Beauty, blush; Florence Gillham, white; Shrapnel, orange terra-cotta; and John Woolman, pink with white zone round disc.

The foregoing varieties should meet the requirements of those who desire to make a bright and beautiful display throughout the autumn. Over-rich soil for these plants is apt to produce an undue amount of growth at the expense of the flowers. For this reason Chrysanthemums should be planted in soil of only moderate richness. If not already dug over, the sooner this is done the better, as this will leave ample time for the weather to sweeten and pulverise the quarters it is desired to plant. In large borders three plants of a sort

should make a beautiful splash of colour, and where pleasing contrasts are wanted it should be an easy matter to achieve these results with only elementary knowledge of the capabilities of these plants. Plant the Mme. Marie Massé family 3ft. apart, and most others about 2½ft. asunder, and then the intervening spaces should be filled up before the season is over.

Order plants from the Chrysanthemum specialists at once, and as these are usually very small, they will need careful handling for a time. The most satisfactory method, in my experience in dealing

with these little plants, is to plant them out about 4ins. asunder in rows in a cold frame, in any light gritty compost, planting rather firmly. Water in lightly, using a fine-rosed can; keep the frame close for a few days, and as the plants become established, admit air, increasing this as time progresses and the plants make headway. Ultimately remove the frame-lights altogether. Plant outdoors in the early days of May, when danger of cutting winds and frosts is reduced to a minimum. The plants may then be lifted with a mass of roots.

D. B. CRANE

FORCED BULBS AND HARDY FLOWERS AT VINCENT SQUARE

THOSE who, on entering the R.H.S. Hall on the occasion of the mid-March fortnightly meeting turned to the right, might well have felt that it was "Hyacinth Day," for this spring bulb decidedly predominated. Messrs. Sutton and Sons had a large collection of some of the finest pikes

buy goodly bunches of flowers in the streets for a few coppers.

Next to the Hyacinths and other spring bulbs it was the many little colonies of Saxifrages that attracted attention. In the exhibit by Mr. C. Elliott there were a few tiny plants of *S. Mira*, each bearing just one pink bud or open flower.



VERY SUBSTANTIAL AND BEAUTIFUL.

THE NEW NARCISSUS WHITE OWL.

we have seen and their arrangement was distinctly tasteful. Of the numerous varieties the best grown was the yellow City of Haarlem, though the Dresden china blue of Schotel was very fascinating. Chestnut Flower is an uncommon colour in Hyacinths, and is well described by the name.

In the large exhibit by Messrs. R. and G. Cuthbert there were fine spikes of Menelik, the darkest of all dark blues.

That excellent Hyacinths, Narcissi and Tulips can be grown in bowls of fibre was fully evident by the collection of Messrs. R. H. Bath, Limited, and here many visitors were charmed by the bowls of *Fritillaria Meleagris*, which certainly were decidedly elegant and fascinating. These quaint bulbs are quite good room flowers either when growing in bowls or as cut-flowers. In the meadows along the upper reaches of the Thames they grow in great profusion, and most years the people of Reading and other riverside places are able to

This is one of the late Mr. Farrer's plants and in colour is a great advance on *S. Irvingii*, which was freely shown in great beauty. One little group of alpine plant enthusiasts discussed the quaintly attractive *Saxifraga Greisbachii* Wisley variety, which far surpasses the type. At first it was voted most beautiful, but finally, after much good-natured banter, it was agreed that quaintly attractive was more appropriate for the tuft of silvery foliage and the hairy crimson bracts on the flower stems. *S. lilacina* really is a delicately beautiful flower.

The most noteworthy representatives of the Iris family, which at earlier meetings have been numerous, were the several excellent pots of *Iris fumosa*, one of the best of the April flowering section. It bears quite large violet flowers of delicious fragrance.

Chief among the flowering trees and shrubs must be placed the remarkable group of pot

Camellias by Mr. William Paul. These were all clean, healthy specimens and exceedingly well flowered. It is the single-flowered varieties that are most successful in the open, and among those present were Lady McKinnon, Mrs. J. Buchanan, Adelina Patti, Vesta, The Swan and Jupiter. Azaleas of the various types were plentiful, and the most attractive were *A. Hidomanyo*, a charming soft salmon pink little bush of *A. Kämpferi* and *J. C. van Tol*, a *mollis-sinensis* hybrid which is nearer the *mollis* section in size and habit. It becomes a glowing bush of brick-red colour with a sheen of orange salmon.

The Narcissus season may be said to have fairly commenced, as there were several very good collections on view. Many of the newest sorts were as yet unnamed, but they were very promising, particularly those belonging to the large trumpet section. Goldbeater is a rich yellow self of large size and fine shape. Darius is a bicolor with a canary yellow tube rising from a primrose perianth. Vestal Virgin, another of the large trumpets, is paper white and a sulphur yellow tube. Perhaps the largest of all trumpets was Mrs. H. J. Veitch, though the quantities of King Alfred in Messrs. Carter's graceful exhibit were splendid.

NEW AND RARE PLANTS.

***Pieris taiwanensis*.**—The name suggests that this is one of Wilson's Chinese discoveries. It is a wonderfully good shrub and, if it proves to be hardy, will be a decided acquisition. It is nearest to *Pieris (Andromeda) japonica*, but bears a more erect spike of whiter, rounder and rather larger flowers. The leaves are much broader than those of *P. japonica*. The plant on view suggests that this species flowers when quite young. Award of merit to the Marquess of Headfort.

***Freesia Wistaria*.**—Although the coloured *Freesias* are now becoming somewhat common and include many distinct shades, there is none quite like this one. The three inner petals have the same blue-mauve colour as *Wistaria sinensis* flowers, while the outer petals are simply flushed with it. The spike and blooms are both good, but, unfortunately, there seems to be no fragrance. Award of merit to Mr. G. H. Dalrymple.

Narcissus White Dame is a large trumpet Daffodil of perfect form but rather thin in texture. The frilled trumpet is widely open and has a reflexed rim. The colour is that known as paper white. Award of merit as an exhibition variety to Mr. G. L. Wilson.

***Narcissus White Owl*.**—This might almost be termed a *Polyanthus-Leedsii-Tazetta* Daffodil, for it bears twin *Leedsii* blooms on a *Tazetta* growth. It was raised from Minnie Hume and Scilly White. In general appearance the flowers are like small *bilora* trumpet blooms; they have plenty of substance. The round sepals are white and the trumpet is pleasingly shaded primrose. An excellent variety for pot cultivation. Shown by Mr. W. F. M. Copeland.

***Violet Tina Whitaker*.**—This is a large flowered single variety which has somewhat the appearance of a poor *Viola*. The long petals are thin and pointed and the colour is purplish. Shown by Mr. H. A. Perkins.

***Odontioda Opal*.**—A very fine spike of roundish flowers which have dull crimson markings edged with lilac and white. The white lip bears a rich yellow crest. First-class certificate to Messrs. Armstrong and Brown.

***Sophro-Laelio-Cattleya Falcon Westonbird variety*.**—The flower is so dazzlingly beautiful that one can forgive its cumbersome name, for which, after all, it is in no way responsible. The blooms are as nearly perfect in form as possible. The ground colour is a vivid, sparkling cardinal red, and this has a sheen of fiery orange. There is a

velvety crimson lip and an orange throat. First-class certificate to Sir George Holford.

Cymbidium Alexanderi Westonbirt variety.—This is the most perfectly formed Cymbidium imaginable and a very beautiful flower withal. The robust, erect spike bore half a dozen roundish fleshy blooms having pearly white segments and a

crimson splashing. Award of merit to Sir George Holford.

Sophr-Cattleya Prince Shimadzu.—A very beautiful flower in which the segments are heavily mottled with rose in an uncommon fashion. The broad, golden lip is deeply margined with rose pink. Award of merit to Messrs. Flory and Black.



A MAGNIFICENT LILY-OF-THE-VALLEY SHRUB—PIERIS TAIWANENSIS.

lip evenly spotted with rosy crimson in the centre of which are the two yellow ridges. First-class certificate to Lieutenant-Colonel Sir George Holford.

Cymbidium Alexanderi variety Rosalind.—Although not of such perfect form as the above, it is a very charming flower. The ivory white segments are delicately flushed with pink and there is a rose pink edging to the lip shading to

Apple Peter Lock.—This seems to be a good late general utility fruit, for it is recommended both as a dessert and a culinary variety. It is a large, round, flattish fruit somewhat like a very golden Wellington. The sunny side is lightly striped with crimson. It is said to be quite common in the orchards in the neighbourhood of Buckfastleigh, Devon. Award of merit to Mr. J. A. Devenish, Goulds, Staverton, Devon.

SPRAYING IN SPRINGTIME

Fruit trees which were not sprayed in winter should be sprayed in spring. Those sprayed then may need spraying again.

THE relative value of winter spraying and spring spraying has been the subject of much discussion. Indeed, it is almost as debatable a point with the advocates of spraying as has been the practical value of spraying itself between its disciples and those who will have none of it.

Whatever may be the value of winter spraying—and for some purposes it is the best thing we know—it is too late now to benefit our trees by dwelling upon the matter, but if winter spraying was neglected, it is imperative that careful attention should be given to spring spraying, and even where the winter spraying was carefully and thoroughly done, there may very likely be need to spray again in spring. If trees are known to be troubled by only one pest or disease, and its identity is established, it may be comparatively easy to decide whether the one season or both will be involved in the measures to be adopted to grapple with the trouble. The unfortunate point is that a predisposing cause of attack is impaired health of the tree, and as soon as such condition affords

opportunity, not one but several pests and perhaps, fungoid diseases as well, fall upon the tree to work their havoc. Another thing is that the injury worked by one enemy renders the tree vulnerable to attack by another, and therefore even if we may have destroyed a host by winter spraying, it may be just as necessary to ward off quite a different host by spraying again in spring.

The fluids that may be used during the winter when the trees are leafless and dormant are more caustic and penetrating than can be used with safety when the buds are bursting into new growth. On the other hand many comparatively mild and simple washes will prove thoroughly effective if used just at the right time.

The right time is governed by natural causes, which regulate the awakening of activity after the winter's rest. If we have warm sunshine and absence of frost during the latter half of March our trees break early, and the ova of insects will hatch. If, on the other hand, we have a continuance of sunless days and cold nights the renewal of activity will be delayed. Instead, therefore, of

fixing up a spraying calendar, it is wiser to work from a chart that takes the stage of development into first consideration.

For instance, we may suppose our trees were affected last year by attacks of the grubs of one or other of the winter moths, the codlin moth, or the psylla (Apple sucker). The date of hatching of the larvæ of these pests will closely coincide with the bursting of the buds. We want to give them a poisonous breakfast, and that must be given before they can bury themselves in the core of the embryo fruit. We cannot, however, spray when the trees are in full bloom, for that would endanger the pollen. The best plan therefore is to spray just before the first buds break, and then, to make perfectly certain, spray again when the petals have fallen. It would obviously be foolish to work such a task by date. The situation of an orchard or garden, combined with the vagaries of our climate must render any fixing of dates abortive. Furthermore, even in one garden or plantation some varieties will come into bloom earlier than others, and every tree should be watched and treated individually. This means trouble and irksome labour, but it spells the difference between success and failure, and it is worth while taking the trouble to rid trees of the pests that can destroy the crops.

Talking to an enthusiastic cultivator recently, who is famous throughout his district for securing consistently good crops even when neighbouring growers have failed, he assured me that for over a dozen years he has made a practice of using a knapsack for half an hour to an hour a day spraying his trees just as they individually reached the stage of showing the first signs of bursting. He would as readily think of giving up spraying altogether as attempt to make one complete job of all his trees at one operation. There lies a fundamental point, and it is worth taking a deal of trouble to ascertain just when to spray.

For the pests aforementioned arsenate of lead wash makes a reliable and effective spray. It is a poisonous compound, and although it may be prepared by dissolving arsenate of soda with acetate of lead in water and adding treacle to make it adhesive, it is safer to buy a properly prepared paste and dilute according to directions given on the canister.

Lime-sulphur is another useful spray for spring use, its purpose being to arrest the development of many fungoid diseases. It is also a capital spray to use as a deterrent to birds that are wont to pick at the swelling buds. It is possible to combine these two mixtures, making one spray serve the dual purpose of insecticide and fungicide, but they must be blended with care else the one will destroy the power of the other. It is a chemist's job rather than an amateur's.

Before long we shall require to be on the track of the first batches of aphides that will be hatching from eggs that have lain dormant during the winter. A very effective spray, so long as it is thoroughly well emulsified and kept agitated throughout the process of spraying, may be made by bringing half a pound of good soft soap to boiling point in a gallon of water, then adding two gallons of best paraffin oil, stirring with vigour until the whole is converted into a creamy emulsion. The solution will make 100 gallons of spray. The essential point is to keep the oil thoroughly mixed by repeated violent stirring, for if the paraffin is allowed to rise to the surface the spray will lose its effectiveness, and the oil will damage young foliage. A spraying machine with a paddle or agitator inside the tank will keep the fluid thoroughly emulsified.

The value of nicotine for destroying aphides and most gnawing and sucking insects is so great that even at the high prices at present prevailing we can ill afford to do without a good nicotine wash.

A. J. MACSELF.

CORRESPONDENCE

TRANSPLANTING TIMES.

WITH reference to your note (page 111 of THE GARDEN for March 11) that the May planting fetish is dying out, I have always understood, as an amateur gardener, that for Yews the end of April or the beginning of May was the time for transplanting *par excellence*. Should this not be so, it is very desirable that the fact should be given the widest possible publicity, and I do think that a discussion contributed to by those entitled to speak with authority not only on this point, but upon the best times for transplanting in general, would be of the greatest interest to gardeners.—L.

Our correspondent's suggestion is an excellent one. We shall gladly find space for a discussion of the question.—ED.

TREE LUPINS IN THE BORDER.

THE Lupin appears of late to have become exceedingly popular, which, considering comparatively recent improvements in colouring, is not to be wondered at. It seems now to be quite fashionable to plant strains which have been produced by crossing the shrubby so-called Tree Lupin with the herbaceous forms. The quiet, restful colourings of most of these crossbreds are very beautiful when a cut spray is examined, but few people use Lupins for cut-flower owing to their shedding propensities. Looked at as garden flowers these forms seem to me far inferior to either of their parents. The extensive range of colour now obtainable in the herbaceous forms contains many shades at once brilliant and pleasing—this even to the most captious—but it is of the value of the too neglected Tree Lupins that I feel impelled to write. Their only real failing is shortness of life, which is especially manifest in the North and East, where only young robust plants can be depended upon to withstand the rigours of winter. They are, however, readily and rapidly replaced from seed and need replacing no oftener than a well kept herbaceous border must be re-made, so that, personally, I have not found this an appreciable drawback. They are, when in blossom, among the most satisfying features of the garden, while merely as a foil to other plants and a harmonising influence they earn their place in the herbaceous border. Forms are now obtainable which are almost golden yellow in colour, but give me the old-fashioned creamy-white variety and more particularly the typical soft yellow!—MIDLANDER.

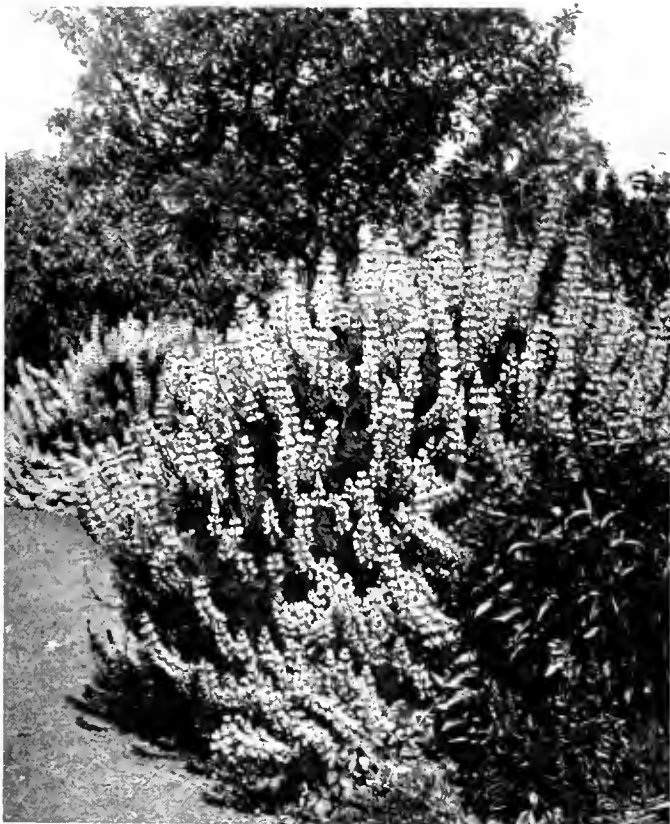
THE WYCH ELM AND OTHER MATTERS.

I SHARE with "Somers" (March 11, page 114) the feeling that trees are truly seen when leafless. A tree seen thus in winter, with the sun rising or setting behind it, always affords me

a peculiar pleasure, surpassing all summer joys in it. When he writes of a Wych Elm in particular he touches me closely, for we had one in our old Surbiton garden. It served as our outdoor summer sitting-room, and we children used its lowest branch as our "horizontal bar." "Somers'" description of its "domes" is perfect. Like him, too, I count all I see as mine, and am now part owner of a beautiful park, whose nominal owner wots not of my existence. He pays all the expenses and has all the worry of it—a truly admirable partnership from my point of view.

The neglected Begonias, with their ruddy foliage, as pot plants, I also found out a few years ago. They are—as "C. T.," Amptill, writes (page 120)—delightful. The Night-scented Stock is never absent from my "fragrant border," and at the present time (March 10) is coming up in self-sown masses under my west room window. I "carry off" its daytime shabbiness by planting some purple "Daytime" Stocks close against its clumps. I hazard the surmise that it opens at night to be fertilised by some special moth possibly?

I am so pleased to see "Clarence P.," again in THE GARDEN; his humorous and practical paragraphs have too long been absent. I agree with his objection to the "ii" termination—



THE VALUABLE TREE LUPIN—LUPINUS ARBOREUS

Jonesii, Smithii, Brownii, Greenii, Blackii, and the rest. I wish Mr. Allwood would make a new departure with his new plants and call them Allwood's Dianthus. By the way, Clarence, you are not the only sufferer from parental cruelty, in choice of your Christian name! Mr. Allwood's is Montague, and mine are as many as a Royal princess's. Tumtidy Marianne Tumtidy Tiddy-tum Tumtidy. What a life the girls at the Ivy House Hackney High School led me! especially

as one of my names was that of the heroine of a popular poem—and girls were not allowed to fight *then!* Perhaps they are now. So many things have changed since I was young!—ANNE AMATEUR.

THE HARDINESS OF EUCALYPTUS GLOBULUS.

IN THE GARDEN of March 11, page 120, your correspondent, "J. P.," writing under the heading "Eucalypti," wonders "whether Eucalypti, Camellias and Mimosa could possibly, with protection, be induced to grow in the warmer parts of Cheshire." Without venturing an opinion on the exact point raised, it may be of interest to "J. P." and many others if I remind them that Osgood Mackenzie, Esq., has in his grounds at Inverewe, North-west Ross-shire, several specimens of Eucalyptus Globulus, which were several years ago of pit-prop size. Further, Sir Herbert Maxwell, in his delightful book, "Scottish Gardens," page 82, tells of a 30ft. specimen of E. Globulus, at Castle Kennedy, Wigtonshire, which was blown down by a gale in 1894, but which was again showing its hardiness there by means of a fresh stem thrown up from the root. Sir Herbert also tells of a 20ft. specimen of Acacia dealbata, which was killed by the severe frost which occurred on April 24, 1908, a date which came between his seeing it at Castle Kennedy and the publication of his book. The death of this Mimosa was attributed to the fact that it had made, immediately previous to its decease, unusually vigorous growth, owing to the warm weather at that early period of the year. As Sir Herbert in his introduction to his book points out, the relative hardiness of plants in Britain is not so much a question of North and South as of East and West.—CALEDONIA.

EFFECTS OF DROUGHT.

GARDENERS as a rule do not realise that the flowering period of nearly all annuals can be extended by cutting back the plants as soon as the first rush of bloom is over. During the late dry summer most people will have noticed how quickly annuals came into blossom and how soon that blossom faded. In this garden some large patches of blue Nemesis, double Godetia, Nicotiana, crimson Flax and others were cut over with shears as soon as the first flowering was over. After one or two waterings the plants started into growth again, and the second blossoming was as effective as the first and more lasting. Among perennial plants which enjoyed the heat and drought were the following: All Gypsophilas, Lavatera Olbia, all Eryngiums and Echinops Ritro, Helenium and Rudbeckias looked miserable and suffered far more than did Phloxes in this cool, heavy soil. The only plant actually killed by drought (except wall plants) was London Pride. In full sun this all perished. I have a good deal of old flint and brick wall in which various plants are naturalised. These are chiefly Pinks of several species and varieties, Erinus alpinus, Sedums and Sempervivums. All the Pinks were killed, including large old plants of casius and plumarius. D. deltoides was the first to go. Out of many hundreds of plants of Erinus not half a dozen are left. However, I fully expect that both these and the Dianthi will reappear from self-sown seed. Sedums and Houseleeks were unharmed and, strange to say, the damp-loving Arenaria balearica has survived here and there where shaded from the sun. Ivy-leaved Toadflax and yellow Corydalis still hold their own. None of the walls are "retaining" walls, and they are all built with mortar. When one considers that for months no moisture can

have penetrated the crevices and that the walls were baked through and through by the sun, it seems wonderful that any plants should have survived.—B. C. T., *Hants*.

A QUESTION OF CULTURE.

"A. E. W." says (March 11, page 112) that *Iris unguicularis* needs "very poor soil." It is true that this *Iris* may flower well at the foot of a south wall in the poorest soil, but the finest flowering clumps of it that I have ever seen were planted in a rich Vine border facing south, where the plants had also the benefit of being close to a wall warmed inside by hot-water pipes. Heat, not quality of soil, is the essential requisite for making them flower well.—H. ROLLO MEYER.

A LITTLE-SEEN ROCK PLANT.

SOME years ago I obtained a plant of *Calceolaria polyrhiza* which, with some misgivings, notwithstanding its supposed (or catalogued) hardness, I planted out in a sheltered corner of my little rock garden. There it has flourished greatly and increased rapidly by running underground, so that I have established pieces in other



THE TOO LITTLE-SEEN CALCEOLARIA POLYRHIZA.

and colder places, even between paving stones in another part of the garden altogether. I still occasionally find it listed in hardy plant catalogues, but I never seem to see it in gardens I visit unless it be a plant which originally was obtained from me. I think its want of popularity may probably be due to the fact that being a *Calceolaria* its hardness is mentally called in question and also to its catalogue descriptions, which seem to lay emphasis on its quaintness and quite overlook its real charm and beauty. Few plants can possibly be easier "doers" or more worth growing by those to whom beauty is not dependent on mere size.—E. N. Q.

FORTHCOMING EVENTS.

March 28—Royal Horticultural Society's Fortnightly Meeting (two days). Masters' Memorial Lecture, by Dr. Harold Wager, on "The Behaviour of Plants in Response to Light," at 3 p.m. on the first day.

March 29—Irish Gardeners' Association and Scotch Society's Meeting. Glasgow and West of Scotland Horticultural Society's Meeting at 7 p.m. Lecture on "Rock and Water Gardening."

April 1.—Paisley Florists' Society's Show

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Cauliflowers.—It is an immense gain where arrangements can be made for an early batch to be grown under glass. This may be either in 8in or 9in pots or, better still, in deep pits facing south, having a flow and return water pipe system for use on cold evenings. The pits should be of sufficient depth to allow for a bed of leaves and litter. This bed should be prepared in time so that the heat is on the decline when the plants are placed in their final positions. After carefully hardening other batches they may now be planted out in well enriched soil and, if possible, in a warm, sheltered spot to come along quickly. A slight protection such as afforded by a few evergreen boughs should be given if cold winds are prevalent.

Beetroot.—On a warm well worked border a small first sowing may be made, choosing a Globe-rooted variety for preference. For this early crop allow a distance of a foot between the drills.

Dwarf French Beans.—Make use of as many frames as possible to maintain an unbroken supply of this vegetable, and as it is still too early, "except in the more favoured spots," to sow outside, sow some seed thinly in shallow boxes and place in cold frames. These will be ready to transplant to a warm border a little later.

Cucumbers.—Make a sowing at once, if not already done, to furnish plants suitable for use in frames or a succession batch inside. Plants growing and fruiting freely require constant attention in stopping and regulating the growths, while with lengthening days and stronger sunlight plenty of moisture will be needed both atmospherically and for the roots. Frequent top-dressings are of the utmost benefit to enable plants to carry a heavy crop of fruits, and a suitable compost would be fibrous loam, spent mushroom manure and some flaky leaf-soil.

The Flower Garden.

Planting and Pruning.—The present is a suitable and proper time for each of these operations in connexion with some of the occupants in and around the flower garden. With the exception of Hollies and Bamboos it would be well to get the planting of evergreens completed soon, especially on light soils, but with the two plants named there is no hurry for another three weeks; indeed Bamboos often "go away" more quickly if the planting is deferred until the early days of May. An important point in connexion with the planting or transplanting of shrubs and trees is to have everything in readiness so that the work may be carried out quickly and no unnecessary suffering be imposed upon the roots of the plants dealt with by long exposure to unfavourable climatic conditions. In dealing with the pruning of shrubs, especially flowering ones, I think the same remark applies as with Roses—an intelligent enthusiast will quickly see what his or her plants require as far as the knife is concerned. Where Ivy is used as a covering I think the end of March affords really the best time for hard pruning, as the genial and growing days oft experienced during April will soon induce new growth to hide the bare appearance following severe pruning.

Plants in Tubs, among which include *Hydrangeas*, *Lippia citriodora*, (Lemon-scented Verbena), *Fuchsias* and *Agapanthus*, should now be encouraged to grow freely giving such attention as necessary to top-dressing or retubbing. Where these plants are required at their best late in the season, much may be done towards arriving at this end by retarding them as long as possible at this season.

Fruit Under Glass.

Pot Strawberries.—Increased sun-heat and longer growing days will render it necessary to give these plants more attention, particularly those which were introduced into the houses some weeks ago. These are now full of activity in leafage and at the roots. Dryness at the root must be guarded against, and it is also necessary on all bright days to give the foliage of the plants a couple of good syringings, unless of course during the flowering period. More manure water may be safely used now on plants swelling up their fruits, but discontinue this when coloration sets in likewise the spraying of the plants, and endeavour if possible so to arrange that a goodly amount of air may circulate among the plants so that as good a flavour and finish may be given the fruits as possible. See that some support

is given the fruit either with sticks or by stretching a couple of strands of twine under them and looping it at intervals to permanent wires in the house or to some secure temporary arrangement.

H. TURNER.
(Gardener to the Duke of Northumberland.)
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Parsley.—A good breadth of this popular herb should now be sown. This first sowing thrives best if allotted a part of the early border where the soil has been deeply dug and well manured. Sow in shallow drills 12ins. apart. Run the hoe through between lines of old plants and so encourage enough growth to last until early sowings are ready for picking.

Seakale.—Plant the necessary number of sets now for providing strong crowns for forcing purposes next season. The sets that were prepared some time ago and laid in sand will now be showing several shoots at the top. Rub these off with the exception of two of the strongest. Draw shallow drills 18ins. apart and plant the sets 15ins. apart in the drills, covering the crowns with 1in. of soil. After growth is advanced rub off the weaker of the two shoots.

Spinach.—Make frequent sowings so that fresh pickings may be maintained. Sow also Spinach Beet, as this proves a valuable substitute should the summer variety fail through drought or other causes.

Globe Artichokes.—The rough litter which has been used as protecting material during the winter may now be removed and the ground forked between the plants, at the same time giving a liberal dressing of well decayed farmyard manure. Should new plantations be necessary, the work may be carried out at this time. Where the soil is stiff and clayey work in a quantity of leaf-soil, lime rubble and cinders. This will be found helpful in freeing the soil and encouraging root action.

Leeks.—Seed should now be sown in the open border. This sowing will, in most gardens, provide the principal planting of this indispensable winter vegetable. Selected Musselburgh still holds first place in Northern gardens for quality and hardness.

Fruit Under Glass.

Vines.—Muscats in flower should receive careful attention at this time, allowing a night temperature of from 65° to 70°, with a corresponding rise of 10° to 15° on sunny days. Allow the bunches as much light as possible. Muscats do not as a rule set well under dense foliage. Fertilise with a rabbit's tail or very fine-haired brush. Keep the atmosphere dry and buoyant until the bunches are well set.

The Flower Garden.

Half-Hardy Annuals.—The majority of half-hardy annuals, such as Stocks, Asters, Zinnias, *Nemesia* and *Alonsoas*, should be sown now in the genial temperature of a greenhouse. After germination takes place keep the boxes as near to the glass as possible so that sturdy little seedlings may result, which, after due hardening, may be pricked out into cool frames. Guard against too much moisture. Stocks in particular damp off readily in the seedling stage.

Hydrangea arborescens grandiflora.—Plant beds of this delightful American species now. This variety has proved one of the hardiest and most floriferous of the *Hydrangeas*. It is particularly pleasing during the late summer and early autumn, especially when planted in conjunction with *Fuchsia Riccartoni*.

Spring-Flowering Plants.—Beds containing Tulips, Hyacinths, *Myosotis* or other spring-flowering plants should have the surface stirred with a small hand cultivator. Permanent beds of May-flowering or Darwin Tulips should also have the surface cleaned and fresh soil added.

Border Chrysanthemums.—Where these were rooted in boxes some time ago they should now be ready for transplanting into frames. Plant in a rich compost of old potting soil with a quantity of manure from a spent Mushroom-bed added. This assists in forming strong plants, which will be in fine condition for planting out early in May.

JAMES McGRAN.
(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock.

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REFERENCE was made on the "Notes of the Week" page a fortnight ago to the exploded May-planting fetish for Hollies, Yews and evergreens generally, which are much more easily removed and established in early autumn. It must, however, be admitted that there are plants which remove most satisfactorily in spring, when growth has started. Two of the most notable examples are the garden Pyrethrums—varieties of *Pyrethrum roseum*, or *Chrysanthemum coccineum*, as it is now known—and the several genera of giant grasses which gardeners group together as Bamboos.

The Pyrethrums.—The time has come to order Pyrethrums, while it is still early for the Bamboos, so that it is the Pyrethrum that merits this week our attention. This is not a deep-rooting plant and is, for that reason, readily injured by drought on badly cultivated soils. Thorough and deep cultivation should, therefore, be the rule, and a good dressing of farmyard dung or of Wakeley's Hop manure should be incorporated. The Pyrethrum resembles the herbaceous Phloxes in this—that it does not succeed if replanted as large clumps. Many gardeners like plants from pots, but there is really no objection to sound first year plants if they are so packed and cared for as to prevent their roots becoming dry in transit. The Pyrethrum, though it abhors drought, dislikes a waterlogged soil, but if the drainage be adequate and the soil well cultivated, it will flourish in almost any type of loam, although it undoubtedly prefers one somewhat light in texture. The great value of the Pyrethrum consists in its flowering season, which is just between spring and summer, when few flowers are to be seen in the borders.

A Fine Cut Flower.—It is additionally welcome because it is really excellent for cut flower. A generation ago the energies of the florists who specialised in this flower were directed solely to the production of double varieties, but nowadays the beautiful single forms are most in favour. The double sorts have, however, the merit of lasting longer, either on the

plant or when cut. Some of the best varieties are, dealing first with the double sorts: Carl Vogt and Aphrodite, both pure white; Lady Kildare, Pericles and Wega, buff shades; Alfred Kelway and Captain Naros, crimson; and Ne Plus Ultra, bluish pink. Among the singles Snow White and Queen of Whites are excellent and pure in colour; the best pink is probably Rev. W. Cuff, but it seems now difficult to procure, so one must be content with the very dissimilar Hamlet to represent this colour. Deeper in colouring, we have Enchantress and Apollyon, and deeper still—a shade of carmine—Mrs. Bateman Brown (largely grown for market) and Bruce. Of crimsons the brightest is still James Kelway, but King of Spain is a larger flower. Propagation is easy, consisting merely in dividing up into single crowns, preferably under a light, immediately second growth commences after flowering.

A Useful Vegetable.—It is strange that the recently evolved intermediate type of Beet has not achieved wider popularity. Even on deep soils, where it really succeeds, the long type is a troublesome vegetable to lift, bearing in mind that a very small scratch will render useless the best of roots. The new type—"oval," it is sometimes not inaptly called—grows largely above ground, like its cousin, the Mangold, which makes harvesting a pleasure instead of a labour. It is

a mistake, especially on light soils, to delay the sowing of long or intermediate Beet too long. Neither is really prone to "bolt," and, all things considered, the first half of April is the most satisfactory time to sow. The Beet is a gross feeder and appreciates rich soil, nor will fresh manure be detrimental to the newer type, so that it be buried a good spit deep. The quality of the "oval" type leaves nothing to be desired, and this strain should follow the stump-rooted Carrot into ever-increasing popularity.

Asparagus Planting.—The season has returned when new Asparagus beds may be planted and old ones—providing the blanks have been marked—may be repaired. On heavy soils, slow to drain, the extensively drained, raised bed so universally met with is imperative; but there are many gardens, where the natural drainage is sharp, where much better results would be obtained by well trenching and enriching the ground and planting on the flat. This method has the great advantage of allowing more space to be allotted to the crowns. Eighteen inches between these and 4ft. between the rows is a suitable distance, and for the first season or two the space between the lines may be profitably utilised for catch-crops of various sorts or for pricking out Brussels Sprouts, Cauliflowers or such like, or the various hardy biennial flowering plants when ready.

A Beautiful Rockfoil.—

Of all tufted (*Kabschia*) *Saxifraga* *S. apiculata*, which forms the subject of the illustration on this page, is probably the most useful. Very early to flower—one of the earliest of all—and extremely free flowering, its sulphur-coloured blossoms seem, somehow, more cheering and spring-like than the cold white-platters—beautiful though they are—of *S. Burseriana*. *S. apiculata* is, moreover, a far more rapid grower and a much more accommodating plant than the *Bursar Saxifrage*. It will thrive in any well drained soil and is, indeed, almost as easy as an *Aubrietia*. There is a pure white variety, which perhaps differs slightly in habit of growth, but is equally floriferous. It lacks, however, the substance and satiny texture of all the several forms of *S. Burseriana*.



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DAHLIAS TO DECORATE THE GARDEN

A well known amateur grower describes what he has found to be some of the best sorts for the purpose.

THE present period may be regarded as most opportune for considering the value of the Decorative Dahlias, as the time will soon arrive when it will be necessary to order young plants from the trade specialists. All too frequently Dahlias are acquired much too late in the spring, and, in consequence, results are less satisfactory in the flowering period than they might be were the plants obtained earlier.

In dealing with the Decorative Dahlias, I propose to regard the term "decorative" in its broadest and most comprehensive sense. There are many types of the Dahlia, and each type has its characteristics defined by the National Dahlia Society, and more recently by the Royal Horticultural Society, at a conference of growers, held at the Wisley Gardens of the latter Society last autumn.

For the purpose of these notes I propose to include within the category of "decorative," Dahlias of different types, each of which has a value in the garden. My object is to give prominence to plants that are especially valuable for garden embellishment, irrespective of how they may be regarded by those who grow this plant solely for exhibition.

Decorative Dahlias for the garden in my opinion should include most of the Pæony-flowered varieties, as well as those of the so-called "Decorative" type. I purpose including in the same category some of the more interesting varieties of the Pompons, Singles, Collarette and the refined and beautiful Star Dahlias, a large number of which may be regarded as ideal for display in beds and borders outdoors and for cut flowers. A somewhat limited number of the Cactus Dahlias may with advantage be regarded as decorative, although the majority of the highly attractive flowers of this type set up at the leading exhibitions in triangular form on wires are almost worthless in the garden. The rule adopted two years ago, and since continued by the joint Floral Committee of the Royal Horticultural Society and the National Dahlia Society, to the effect that "all Dahlias submitted to the Floral Committee for certificate shall be exhibited without artificial support," is indeed a wise enactment. Since this rule has been enforced weak-stemmed flowers have failed to gain the coveted award of merit, this honour being conferred only on flowers with stiff, erect flower stems, which carry their flowers well above the foliage of the plants and which render them highly decorative as a consequence. It is a matter for much regret that raisers of the Cactus Dahlias have for so long worked on wrong lines, utilising plants for breeding purposes having stems incapable of maintaining their flowers in erect position, with the result of bringing into being a progeny perpetuating the same undesirable characteristics. Raisers must mend their ways by working on other lines, so that flowers having weak stems may be eliminated.

For bold, imposing displays in the garden the Pæony-flowered and Decorative Dahlias are to be preferred to other types of the flower; and of these two types I have a distinct preference for the former. This partiality for the Pæony-flowered kinds is probably due to their less formal flowers; as a matter of fact, they are mostly very large, semi-double, with broad florets of good substance and are represented in a wonderful

array of glorious colours. As plants for the garden, individually or grouped in the border, or in beds by themselves, these Pæony-flowered kinds are magnificent for several months, beginning at the end of July and continuing until severe frosts cut them down. Last year the plants continued to flower well into November. Their height varies between 3½ft. and about 5ft. A few of the better Pæony-flowered Dahlias are Albina, pure white, 3½ft.; Luva, bright yellow, 4½ft.; Martial, brilliant scarlet, 4ft.; Hon. Mrs. Phillips Roberts, rich bronze, suffused rose, 3½ft.; Mrs. Nockolds, rich coppery bronze, 3½ft.; Oriana, pure rose, 4ft.; Liberty, scarlet crimson, 4ft.; Apollo, rosy crimson, 5ft.; and Libra, bright rosy red, 4ft. The miniature Pæony-flowered type is exquisite. Generally, this comparatively new section is much admired. The plants are not so large and vigorous in growth as are those of the big flowers, and they yield an abundant display of most dainty blossoms, invaluable as cut flower and beautiful in the garden. There are not many varieties in general cultivation, and the most noteworthy are the following: Norah Bell, scarlet flame, yellow base, 3ft.; Our Annie, shrimp pink, tinted yellow, very pretty, 2½ft.; Chrissie soft rosy pink, 3½ft.; Oriole, brilliant orange scarlet (this variety is sometimes described as a "Star" Dahlia), 3ft.; Edith Jones, salmon pink, shaded gold, 4ft.; and Olivia, deep rose pink, 2½ft.

Decorative Dahlias (so classified) are now becoming quite numerous, and it is not easy to restrict the selection to, say, nine sorts. These have double flowers, of good form, and not seldom they are exceptionally large. The plants make a very striking display, either individually or when grouped in masses. The following sorts are worthy of notice: Mrs. A. Cobb, soft flesh pink, on wiry stems, 4ft.; Delice, rose pink, 3½ft.; Queenie,

golden amber, tipped salmon red, 4ft.; President Wilson, brilliant scarlet, very large, 3½ft.; Sulphurea, sulphur yellow, 4ft.; Warneford, pure white, should be partially disbudded, 5ft.; Portbos, violet mauve, very distinct and free, 4ft.; Mrs. W. J. Unwin, delicate pink, tinted white, very free, 4ft.; and Papa Charmet, deep crimson, huge flowers, 3½ft.

No collection of Decorative Dahlias could be considered complete without the inclusion of a few of the refined Star type. They are flowers of comparatively recent introduction, and Messrs. J. Cheal and Sons have been singularly successful in raising and introducing many of the better sorts. The flowers are borne in profusion on wiry stems, and the plants in most instances possess a beautiful bushy habit of growth, when grown in proper fashion. I have a distinct preference for the following varieties: White Star, semi-double flowers of the purest white, with orange yellow centre—like a Water Lily—4ft.; Yellow Star, yellow, of beautiful form, 4ft. Surrey Star, described as tangerine, suffused with copper and rose, 4ft.; Western Star, rich salmon pink, 4ft.; Southern Star, a combination of crimson, apricot and purple tints, 3½ft.; and Crawley Star, the original of the type, a beautiful clear rose pink, 4ft.

A few Collarette varieties should be in all collections where space can be found to accommodate them. This type of the Dahlia produces its blossoms quite freely, and the plant is most effective in the border. Last season I noted the following varieties for their effective display: Bonfire, orange scarlet, yellow collar; Ustane, salmon scarlet, yellow collar; Diadem, rosy pink, white collar; Eden, pure white self; Admiral, blackish maroon, pure white collar; and Colleen, white, suffused rose, pure white collar. These Collarette Dahlias vary from 3½ft. to 4ft. in height.



THE DECORATIVE GARDEN DAHLIA IS AN INVALUABLE STOP-GAP IN THE BORDER.

Although the little Pompon Dahlia is a distinctly formal flower, I have a great liking for it, as the blossoms stand wet weather very satisfactorily and they are borne quite freely on erect stems. They are good garden plants and generally possess a splendid habit of growth. For garden purposes the following six sorts are useful: Bacchus, scarlet, 2½ft.; Nerissa, soft rose, 3ft.; Ruby, ruby crimson, 3½ft.; Tommy Keith, red, tipped white, 3½ft.; Electra, deep orange, 3½ft.; and Ideal, pale yellow, 3ft.

No type of the Dahlia is more profuse in its blossoming than the Single-flowered, and of these there are many superb sorts. I grow, among others, the following kinds: Lady Bountiful, deep rosy pink, 3½ft.; Owen Thomas, crimson scarlet, tipped yellow, 4ft.; Norma, rich crimson scarlet, 4ft.; Lilian, rosy

lilac; Althea, buff, 3½ft.; and Cardinal, cardinal red, 3½ft.

Small Decorative Dahlias are represented by a restricted list, and the following are especially good: Crimson Flag, dazzling fiery crimson, 3ft.; Reginald Cory, crimson and white, very striking; and The Maid, pure white, 4ft.

The flowering quarters should be deeply dug in good time, so that planting may be done during the first week in June, after first carefully hardening off the plants. A space from 3ft. to 4ft.—preferably the latter—should be allowed between the Peony-flowered and Decorative kinds, and 3ft. or rather less for the other types mentioned in these notes. Procure the plants in good time, pot them up into 4½in. pots, and stand them in cold frames until thoroughly hardened off. D. B. CRANE.

SOME UNUSUAL BUT BEAUTIFUL ANNUALS

AN unusual annual, something out of the common, something fresh, whether hardy or half-hardy, has a special appeal to all flower lovers.

Not only does it feel good, when visited by friends, to be asked, "That is pretty; what is it?" but it adds to one's own pleasure in the garden year to watch the growth and development of something that is unknown and new—at least to us. By directing one's search for this among the annuals there is but a brief period of waiting before seeing the result, either to appreciate a novel treasure or to cast it aside as not of sufficient interest to be repeated. This, however, is unlikely to happen to many of the varieties noted here. Some years ago, I vigorously took up the study of annual flowers, and I think it is safe to say that there are but very few that I have not sown, grown and flowered. Catalogues and lists were exhaustively searched, and, among the results, I discovered a large number of choice and charming things which, somehow or other, are passed by in ordinary selection, simply because they are unknown. A name conveys very little after all, and few lists are disposed to be effusive except in the case of "popular" flowers. If a striking edging plant is wanted *Venidium calenduleum* should be tried. This is one of the grandest brilliant orange flowers that one can possibly find, yet I have only met it twice outside my own garden. The little plants are very dwarf, though

spreading widely, and, in a sunny warm place, cover themselves for months with daisy-like vivid flowers that are remarkably showy. *Flora's*



ONE OF THE HARDIEST OF HARDY ANNUALS—SILENE ARMERIA.

Paint Brush (otherwise *Cacalia coccinea*) is very aptly named, for that is exactly what it is like—a small paint brush dipped in vermilion. The plants are half a foot high, quite hardy and not very vigorous, so that the seedlings should not be too rigorously thinned. A packet of *Dimorphotheca*

pluvialis may be sown in the cool greenhouse now, for planting out later. It grows about 1ft. high and bears a succession of single white marguerite-like flowers with golden centres. The reverse side of the petals is a brilliant maroon.

In a damp, shaded place, scatter a few seeds of the Violet Cress, *Ionopodium acule*. It is a charming little thing that thrives where few other annuals would grow, spreading into dense tufts of foliage, smothered with tiny pale lilac flowers. It is very useful among rough steps in the hardy fern garden and, once sown, usually repeats itself freely year by year. The demand for showier flowers has almost ousted the old-fashioned Night-scented Stock nowadays, inasmuch that it is entitled to take its place among an anthology of unusual annuals. Yet what a treasure it is as evening draws on and it commences its work of attracting the needful night-flying moths and insects. Quite a small clump leaves you in no doubt as to its whereabouts, even at a distance of many yards. No one could accuse the ever-useful *Nasturtium* of being unusual, its bright flowers and free seeding see to that, yet the varieties with variegated leaves (the variegation is distinctly an added charm) are scarcely ever seen. A packet of rosy scarlet, sown during April on the hardest, poorest, hottest, driest soil one can find, will produce a wonder bed from June to October of close, compact, dwarf little plants, perfect balls of variegated leafage that do not break out into straggling trails, with an amazing wealth of gorgeous scarlet blooms that never seem to cease. Another night-scented plant is *Schizopetalum Walkeri*, which might be called the Lace Flower, for it is lace which the remarkable little flowers resemble—wee squares of white lace fantastically cut into exquisite tracery and scenting the whole air in its neighbourhood with a powerful fragrance of almonds. It is half-hardy, but must be sown where it is to bloom, as it is literally impossible to transplant the seedlings, so that sowing should be deferred until mid-May for the open ground, or pots must be employed. Fortunately, late sowing does not matter, as the plants grow and mature very quickly. An annual Stonecrop which is sure of a welcome in the rock garden is *Sedum caeruleum*, a cloud-like little plant with reddish stems, smothered with masses of lilac blue flowers. The best way to ensure success with this is by sowing sparingly in shallow seed-pans, and transferring the resultant plants bodily to the open in late May. *Nicandra physaloides*, a Peruvian annual that is safest when treated as half-hardy, is but seldom seen in gardens. It is a tall and vigorous grower, reaching 5ft., with purplish black stems and soft azure blue flowers that are followed by bladder-like calyces, enclosing large green berries.

I renewed acquaintance last year with *Amarantus tricolor splendens*, one of the most vivid of all annual foliage plants for the greenhouse, that puts many of the *Colcus* into the shade for sheer colour intensity. The leaves are long and narrow, produced alternately round a central stem, and show all colours from green through yellow to vivid blood crimson: a plant to mark when well grown. Blue Beard, one of the Sage family (*Salvia Horminum*), makes a notable addition to the hardy border, for each plant, with its rough sage-like leaves, branches freely, and behind each flower is a sheath-like leaf boldly tipped with royal purple, giving the plant a unique appearance, solely due to this peculiar leaf pigmentation.

Let us turn again to the rock garden for a moment and see where we can scatter a small packet of *Eschscholtzia caespitosa*. I first saw this at Kew, and the following season tried it in my own garden. It is quite unlike any other variety of these gorgeous Californian annuals.

Barely 6 ins. high, with narrow glaucous grass-like foliage, it covers itself with the smallest buttercup-yellow *Eschscholtzias* which it is possible to imagine. It is a gay little flower and worthy of the choicest places. Few who knew the name of a wee plant that resembled the tiniest mossy Saxifrage of which they could think would be slow to sow it, especially if they happened upon it when at the zenith of its beauty absolutely smothered with equally wee orange flowers. Its name is *Leptosiphon aureus*. If a wider range of colours is desired, these can be had in various shades of pink, yellow and white. In the summer alpine garden it is one of the most exquisite little annuals I know, lifting myriads of its dainty little blooms to be kissed by the sun.

On first seeing Lobel's Catchfly (*Silene Armeria*) one is immediately aware of an unusually vivid rose pink flower, but closer examination is necessary to appreciate the unusual character of the plant.

It has glaucous green foliage and is absolutely hardy. It may be sown in the open ground at any time during spring. The stems below each joint are viscid. From these sticky bands the plant gets its name of Catchfly. Upon flowering specimens one can usually find quite a large number of small flies, captured and held in exactly the same way as the fly-paper catches them in a house.

I do not pretend to have been exhaustive; there are numbers of really charming and unusual annuals that well reward the seeker, but the article may serve perhaps to introduce to you something that you had not hitherto seen, and, better still, may start you experimenting on your own account. If this is so let me assure you, that you will not have sought in vain. There is plenty of loveliness and beauty disguised behind a Latin name within the pages of a good seed list
H. W. CANNING-WRIGHT.

varieties are The Geisha, orange-crimson and golden-yellow; Queen of the Buffs; Ruby King, which is dwarfer than the majority of varieties; Rosy Queen; The Rajah, purplish carmine; The Mikado, orange-crimson; Carmine King; Mandarin, orange-crimson and deep orange; Vesuvius, deep crimson; Frilled Pink and Rose Cardinal, creamy Rose. Mixed seed may also be obtained. Apart from the varieties named above, some of the species are exceedingly attractive. Among these are californica, pale yellow; crocea, orange; and its many varieties
H. G.

A HEAT-LOVING ANNUAL

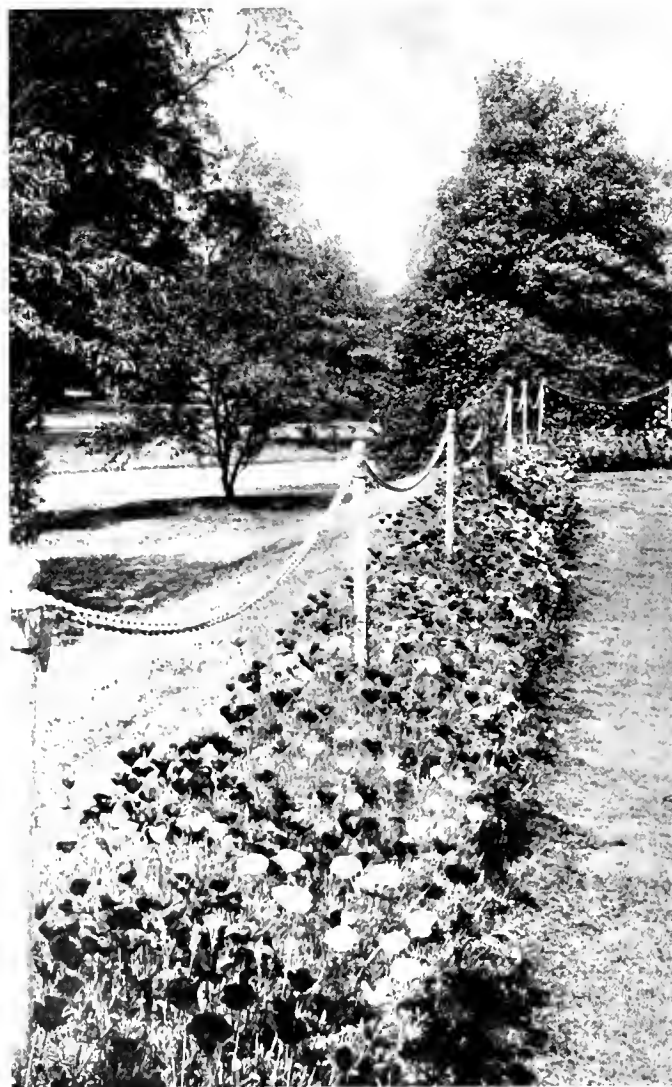
ALTHOUGH strictly perennial, that Californian Poppy, the *Eschscholtzia*, is generally grown as a hardy annual, a mode of cultivation which gives very gratifying results.

For bedding purposes the genus *Eschscholtzia* affords some striking varieties which are conspicuous from afar. During the past few years many beautiful varieties have been introduced and these, or some of them, should find a place in every garden, large or small.

The illustration depicts a border of mixed *Eschscholtzias* growing on a dry bank, fully exposed to the sun. The photograph was taken last summer when the drought was at its worst. In this particular instance the plants were growing in poor sandy soil. It will be seen then that this brilliant Poppy is not fastidious as regards soil and position and above all it is a drought-loving plant. By sowing seed within the next week or so where the plants are to flower a bright display of blossom will be forthcoming during the summer months. When the seedlings appear they should be well thinned out. Apart from their value as bedding plants and for banks they are equally useful as border plants. They should, on account of their habit, be planted at the front of the border.

Eschscholtzias provide excellent cut flowers for house decoration, but this, unfortunately, is not so generally known as it should be. It is best to cut

the blossoms early in the morning before the buds expand. They will then last for several days in water. The varieties differ little in height, which averages about a foot. Some of the best



A SUCCESSFUL BORDER OF THE DROUGHT-RESISTING
ESCHSCHOLTZIAS.

THE PERPETUAL CARNATION

Hints on propagation; its value outdoors and in.

IN these days when economy has to be practised in every possible way, and the high price of fuel has resulted in many old favourite plants requiring a considerable heat being dispensed with, the question arises as to what is the best and most economical plant to grow in order to provide flowers all through winter.

For this purpose nothing can surpass the Perpetual-flowering Carnation, which will produce choice flowers in a temperature that can easily be maintained by anyone having the smallest amount of heat in the greenhouse. The plants themselves are perfectly hardy, but to get the best returns a minimum temperature of 45° should be maintained while admitting a little air through top ventilators on every possible occasion. A temperature of 47° is ample at any time as a night temperature with a rise of a few degrees in the daytime.

If no old plants are available from which to obtain cuttings, now is the best time to order young plants from a reliable firm of Carnation growers. Trouble taken to procure the best is amply repaid later on. Cuttings are best rooted in January, but quite good plants can be obtained from cuttings rooted now.

The quickest and easiest way to root them is to insert them in pans of sand and place them in a frame where slight bottom-heat can be obtained. Keep the top temperature several degrees lower to prevent cuttings becoming drawn and weakened while rooting. Most varieties will be rooted in about three weeks. The pans should then be lifted out of the frame and allowed to harden in more airy surroundings for a week before potting. On no account let cuttings become dry in the sand or failure to root will result.

The cuttings should be potted into 2in. pots in a compost of loam, leaf-soil and sand. When roots are nicely through to the sides, repot them into 4in. pots, adding a little lime rubble and wood-ashes and reducing the quantity of sand. Keep the plants sturdy and short-jointed by admitting as much light and air as possible.

When the plants are established in this sized pot most of them will be ready for stopping, which should be done when they have made about ten pairs of leaves. Stop back to six joints, when a good break from every joint should result.

When the shoots have made six pairs of leaves they should be stopped again, but not after the middle of June for slow-growing varieties and July for quick-growing sorts. It is wise to stop only one shoot on a plant at one time, as the "spread-over" prevents plants receiving a check and also provides a succession of blooms later on.

The final potting should be into 6in. or 7in. according to size of plants, using a mixture of

good loam, a little well rotted manure, lime rubble, wood-ashes and a sprinkling of sand.

The plants may be stood outside during the summer, but protection from heavy rains should if possible be afforded. Do not leave outside after the second week in August. Varieties that

are subject to rust are best grown under cover all the year.

When the plants are housed give them a top-dressing with some special Carnation manure and an occasional sprinkling at intervals, taking care not to overfeed them through the dull days of winter.

In April, if plants are not required to flower in the houses, they may be planted outside, where they will continue to flower all summer. If planted in beds or borders they flower well until late autumn. If an edging is required, the *Allwoodii* are very suitable. S. A. PASCOE

NATURAL GARDENING IN A RESTRICTED SPACE

Some Hints on Planning and Planting.

IT has often been stated in these columns that for the small garden a more or less formal treatment is most satisfactory and effective, but there is no gainsaying the fact that the whole ambition of many small gardeners is concentrated on providing informal effects, largely by the use of small rock gardens. Certainly, if the air be reasonably pure, rock gardening has two great advantages for the small garden. The first is that the excavations and mounds necessary to this form of gardening really enlarge the space at disposal, since plants are set to grow in the vertical cliffs as well as in the more or less horizontal beds and "pockets." Again, some choice alpine plants are exceedingly minute, while the larger rock plants are, compared to many forms of vegetation commonly grown in gardens, quite small. A larger variety with a considerable season of blossom can therefore be provided even in a tiny garden.

It is a fact that the bulk of true alpines flower in spring, but there are many plants suitable for the rockery which flower at other seasons. Among these the Hardy Heaths take high place, but there is no need to describe them in detail here as articles on the family have recently appeared in *THE GARDEN*. Winter-flowering Irises, such as *I. reticulata* and *I. Danfordia*, and, at any rate, in the west, *I. unguicularis* and varieties, will join up with such early-flowering *Kabschia Saxifrages* as *S. apiculata*, *S. Boydii alba* and *S. Burseriana*, and the Glory of the Snow (*Chiono-doxa*) in several species. With our thoughts on bulbous plants it may be well to mention how lovely here are such things as some of the tiny Narcissi. Some of the best are *N. minimus*, *N. Bulbocodium*, with its variety *monophyllus*



THE TINY WILD GARDEN AT THE IDEAL HOME EXHIBITION, CONSTRUCTED BY MESSRS. R. WALLACE AND CO.

and *N. triandrus*. These flower, it is true, when alpines generally are waking from their winter sleep, and the same applies to the lovely *Anemone blanda* and to a greater extent to the even bluer *A. appennina*, to the Snakesheads (*Fritillaria Meleagris*) and to some of its not more lovely but rarer consins, to the Dog's Tooth Violets (*Erythronium*), including the magnificent Pink Beauty and the fragile and chaste White Beauty.

The Alpine Pinks are valuable inasmuch as they extend a little the season of flower, when *Aubrieta*, *Arabis*, *Alyssum*, *Alpine Phlox* and *Gentian* are past their best. The same may be said of the almost ever-flowering *Lithospermum prostratum*.

Later in the season flowers are scarcer, but besides the Hardy Heaths, already referred to, including of course, the Irish Heaths (*Daboecia*) and several other American plants of minor interest, there is the deep rose *Silene Schafta* and, in shady corners, the *Pinguiculas* will add interest. As autumn comes along the hardy *Cyclamens* form an attractive feature, so that, the year round, there need be no want of interest.

On the arrangement of the stones largely depends the sum total of effect, and here attention has to be focussed simultaneously on two objects. These are the welfare of the plants and the pleasing and probable disposition of the stone masses.

The very pretty, if very tiny, rock garden, illustrated herewith, was built by Messrs. R. Wallace and Co. at the Ideal Home Exhibition at Olympia. Every gardener could find room for such a rock garden and yet it must be admitted that it is quite effective without being tussy.

Back to back with this little rock garden the same firm had on view a miniature wild garden which is one would think, the "smallest ever" yet so beautiful is the contouring and so well balanced the planting that it forms a perfect little picture. Such a feature, preferably on a rather larger scale, might well be associated with a rock garden similar to the one shown, but care must be taken not to overplant this type of garden. Plant such a garden solid whether with *Muustead Polyanthuses*, with *Daffodils*, *Fritillarias*, or plants of larger growth, and the picture is completely destroyed.



THE LITTLE ROCK GARDEN AT OLYMPIA, ALSO CONSTRUCTED BY MESSRS. WALLACE.

THE MODERN GLADIOLUS

The queen of summer-flowering bulbs can be planted from now till the end of April or, for late bloom, up till the third week in May.

SOMETIMES devolving through devious ways, anon travelling the blissful avenues towards the delectable mountains, I have at length journeyed my Hadj and am arrived at the Mecca of my desires; which, being interpreted, means that through years of seeking and collecting, and the gaining of knowledge (often by faults and use-less expenditure), I have at length gathered around me a veritable museum of the world's best Gladioli—a museum now indeed, for the dormant corms are hardly, to casual glance, more alive than the treasures of the numismatist or the philatelist. But planting-time is at hand, and these dried lumps of root-stock will in due season break their chrysalides and emerge as a fairyland of butterfly beauty.

Always a lover of Gladioli from the time when, as a small boy—though, I will warrant, keener on hunting Indians among the wonderful sand dunes of Prestwick on the Ayrshire coast—I looked forward to frequent visits with my father to the nurseries of Messrs. Mair and Sous, some half a mile or so from our house. In those days Mair's Gladioli were, as they are to-day, a very celebrated lot, but memory has left no record of what the flowers were actually like beyond a Turneresque vagueness of colour, such as one

gets in thinking of those masterpieces "Ulysses deriding Polyphemus" or "Rain, Steam and Speed." Doubtless *gandavensis*, *Nanceianus* and *Lemoinei* were all represented, and even in this year of grace these names are all that many people think of when ordering Gladioli, though Kelway's and Groff's hybrids are now well known to interested growers, and they have certainly greatly improved the standard of the large-flowered types in recent years.

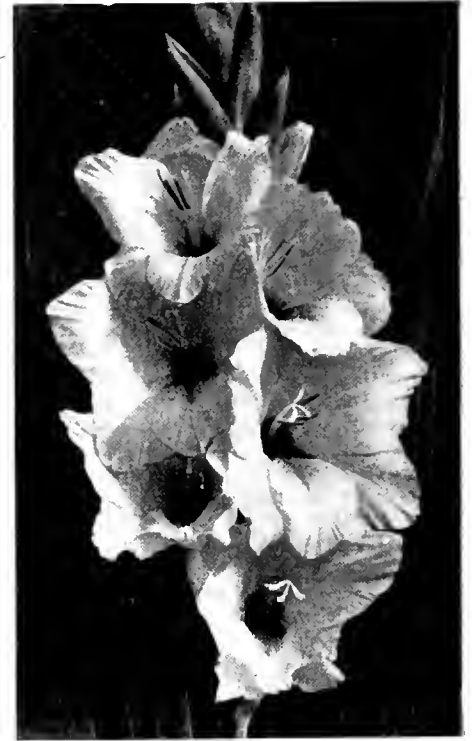
We can now, however, abolish all these derivative proper names, and, for the sake of simplicity, classify the summer-flowering Gladioli under two headings only—large-flowered and *primulinus* hybrids. The latter have become a powerful factor and may be said to be responsible for the reawakening of a wide interest in this queen of summer-flowering bulbs. The story of *G. primulinus* and its subsequent history of hybridisation is too well known now to be repeated here, but no one desiring the best effects from planting these bulbs can afford to ignore this graceful and lovely race. Messrs. Kelway of Langport list some choice varieties of their own raising under the name "Langprims," some of the most beautiful being *Ella Kelway*, palest yellow with rose shading; *Ghost*, canary yellow self; *Golden Girl*, a fine pure yellow; *Lieutenant Kelway*, a

highly coloured flower of nice shape, reddish salmon, shaded crimson; and *Phyllis Kelway*, another pure yellow. The best *primulinus* hybrid yet raised in this country, however, is *Major Churcher's Woodcote*, one of the grandest of the whole race. The colour is a soft pastel tone of coral scarlet with cream blotch on lower segments, while the shape of the blooms and disposition on the graceful spike are very near perfection.

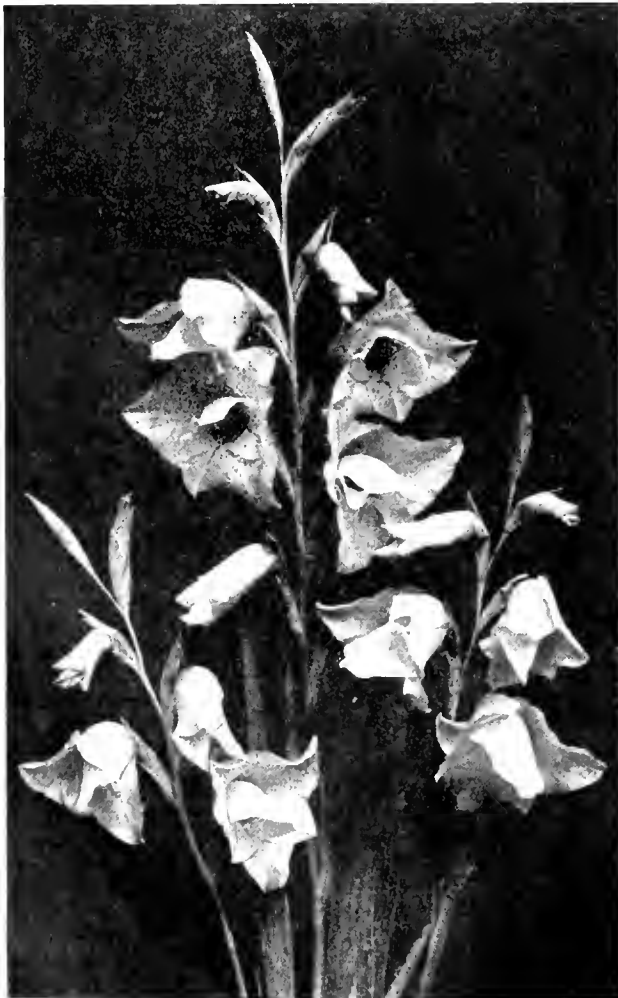
Many of the Dutch originations are excellent; *Orange Brilliant*, *Sunrise* and *Maiden's Blush*, while low in price, are extremely lovely, other outstanding sorts being *Insurpassable*, *Kitty Grulllemans*, *Scarletta* and *Niobe*. America undoubtedly claims pride of place with regard to the production of new Gladioli generally, and they are certainly not behind with *primulinus* hybrids. To mention only a few we might quote *Alice Tiplady*, orange saffron; *Altair*, salmon saffron; *Avatrix*, a glorious combination of amber and delicate rose; *Canopus*, a fine yellow self; *Enon*, orange and yellow beautifully blended; *Fulton*, an exquisite thing with ruffled petals, the upper ones salmon rose and the lower deep gold veined with rose; *Nydia*, the perkier, daintier little flower imaginable, decked up in primiest apple blossom pink and rose; *Otranto* the most lovely yellow I have yet seen,

the bright red throat markings enhancing the aspect of the whole flower; *Salmon Beauty*, most truly named; *Sweetheart*, deliciously blended cream and gold; and *Topaz*, a graceful and elegant aristocrat in buff and salmon.

Among the large-flowered type there is such an array of talent that it would take a whole page to do justice to even a limited selection.



A CHARACTERISTIC SPIKE OF THE NEW LARGE-FLOWERED RUFFLED SECTION.



A TYPICAL GLADIOLUS PRIMULINUS HYBRID.

Three Kelway sorts come to mind at once—*Field Mouse*, Kelway's *Painted Lady* and *John Churchill Craigie*. *Field Mouse* is quite fascinating in colour, a sort of smoky old rose overlying red, with a crimson-scarlet blotch; the *Painted Lady* is pure white with very prominent crimson blotch, and the last is a lovely soft salmon with a large yellow blotch. Mair's *King George* is a good handsome flower of great substance and a large spike, deep crimson with a snow-white blotch.

Of the American varieties I shall be better able to speak in the autumn, as we are planting up a very fine selection of them presently. I cannot help, however, mentioning again Kunderd's *Byron L. Smith*, in some ways the loveliest flower I have ever set eyes on. Mr. Kunderd, by the way, tells me he has a *primulinus* hybrid of similar shade coming out in a year or two. The day when I can receive that I await with impatience and excitement "beautifully blended." *Byron Smith* is lavender pink—so is America. I never could stand, much less enthuse over, the latter—such is the poverty of our colour descriptions! One is an ethereal goddess and the other a very common flower, both described by the same words—well, well! Mr. Kunderd has many stars in his cast which I hope to gossip on more at length after the flowering season is over. By a charming act of friendship on the part of Mrs. Francis King, the American authoress, I am planting up some new introductions of Mr. J. A. Kemp, a New Jersey grower of some repute. His *Pink Wonder*, *White Wonder*, *Albania* and

Early Snowflake have proved widely popular already at the various American shows, and I hope to have the opportunity of exhibiting these and many others at Vincent Square this year.

The culture of Gladioli is extremely simple. With good corms and a modicum of common sense, success is practically a foregone conclusion. Any well worked, deeply dug and fairly rich soil will grow them well, whether the medium be light or heavy. It is well worth while taking the little extra trouble, when placing the corms in the ground, to surround each one with an envelope of silver sand and crushed charcoal; if the latter is not handy, then with coarse sand alone. In heavy land the tops of the corms should be 3 ins. to 4 ins. below the surface, in light soils about an inch deeper. On no account should fresh manure be dug in just before planting, but a mulch of stable or farmyard litter in early June will conserve moisture, help to build up a good flower spike and assist the formation of the new corms which, during the growing season, supplant the old ones.

and climate enter so largely into the question but it will be some sort of a guide to mention that the majority of varieties bloom from seventy-five to ninety days after planting; a few early sorts, like Prince of Wales and Halley, will reach maturity in seventy days in a warm season, while Princeps, Panama, America and some others oftentimes require over a hundred days.

Considerable interest is being shown in our new

method of flowering Gladioli from seed in six months, and there is undoubtedly an immense amount of pleasure derived from growing one's own hybrids. Cross fertilisation is quite a simple matter, and if a few really good varieties are purchased so that a crop of reliable seed can be saved there is no need whatever to wait four or five years for results, as one has always been taught to believe.

J. L. GIBSON.

THE SPRING CARNATION SHOW

THE BRITISH CARNATION SOCIETY held their twenty-seventh Show of British grown and mostly British raised Carnations on March 21st. That the hall was almost filled with Carnations, all of considerable merit, speaks volumes for the perfection of cultural methods and the value of the flower. From the spectacular point of view,

always is a *but*, and in this case it is a terrible *but*, the atrocious chorus girl's hat made up of countless numbers of pink and cerise Carnation petals, the Carnation ship and such were perfectly appalling and certainly detracted from the artistry of the trophies that Mr. Felton arranges so splendidly. To mention only one, the small basket of the golden and green foliaged *Croton turnfordensis* and the



RICH IN TONE AND SHAPELY—THE NEW PERPETUAL CARNATION NIGGER.



PROBABLY THE PUREST WHITE CARNATION IN EXISTENCE—WIVELSFIELD WHITE.

Each plant should be staked to prevent damage by rough winds, and the surface soil must be kept open by frequent stirring if no mulch has been applied.

Weak liquid manure may be given frequently for a month or so before the first flower begins to colour, and as an alternative weak soot water or nitrate of soda (two teaspoonfuls to a gallon of water). The last named is useful for heightening the colour of the rich reds and scarlets.

We are sometimes asked when to plant corms so that they will bloom in time for a certain date. This is not easy to answer because environment

it was the new Florists' Class competition that was the great feature of the show. The prizes were on a generous scale. A handsome "Covent Garden Challenge Trophy" and £30 for the first, £30 for second and £20 for third. These were, of course, well worth winning, so that the five exhibits were a goodly array. Except that funeral designs and mirrors were debarred, the exhibitors had perfect freedom of action on their allotted spaces. Messrs. R. F. Felton and Sons, the Hanover Square florists, were the most successful. The arrangement of the various baskets, vases and such was perfectly charming and left nothing to be desired but, there

deep yellow Saffron Carnation was most delightful.

In the second prize arrangement by Mr. N. B. Shearn of Tottenham Court Road, there was a handsome wall bracket of crimson Carnations and a decorative screen of cerise and blush. From a purely decorative point of view, however, the most pleasing of all these various designs was a large basket in the third prize exhibit by Mr. K. Silvester of Sloane Square. This was of mixed Carnations, chiefly of such fancies as Jazz, Sheila Greer and the reddish-brown leaves of *Croton Queen Victoria*, with just the right number of crimson *Thor* rising above them.

The Lady Members' Artistic Classes were disappointing. The first prize table was of Wivelsfield Apricot Carnations, with Croton leaves and sprays of Pittosporum, but the arrangement was very stiff and formal. The few vases and baskets were much of the same character. In the open classes Mrs. Hammond was awarded all five first prizes for very tasteful arrangements.

Sir Charles Hall-Cain, The Node, Welwyn, had three exhibits and won three first prizes. These were all particularly well grown plants in flower and included Lady Alington, Lady Ingestre and Chastity. His group which won the Lord Howard de Walden Challenge Cup was well arranged.

Most of the other first prizes were won by Sir Randolph Baker, whose gardener grows Carnations every bit as well as he does Sweet Peas and is also able to arrange them attractively.

In the open classes it was a case of Mr. C. Engelmann first in almost every case. The principal exception being the class for not fewer than 100 blooms of any one variety which was won by Messrs. A. F. Dutton, Limited, of Ivry, with beautifully coloured blooms of Lady Northcliffe.

The best British novelty distributed since 1919 was the crimson Thor, shown by Mr. Engelmann who, in Topsy, another splendid crimson, had the best American novelty, and this was also very effective in a large vase.

In the colour classes the best varieties were Peerless, rose pink; Aviator, red; Carola, crimson; Laddie, salmon pink (this vase was also adjudged the best in these classes and won a silver-gilt medal for Mr. Engelmann); Saffron, yellow; and Crystal, white.

Several of the principal trade growers arranged magnificent collections around the hall. Mr. C. Engelmann and Messrs. Allwood Brothers both won large gold medals; Messrs. Stuart Low and Co., were awarded a silver-gilt and Messrs. Keith Luxford and Co., a silver medal.

The sundriesmen had quite a field day. Much attention was focussed on the "Willmott" plant stake, which should, we think, be very useful for plants under glass, particularly Carnations, as it combines stake and tie in one and is instantaneously adjusted or removed. Its merit for plants outdoors has to be demonstrated, though Messrs. H. J. G. Wood, who exhibited it, described it as a great success in the flower border. Mr. John Pinches of Aeme label fame had, in addition to the east labels in which he specialises, his new clips for fastening exhibition tubes just where required on the special steel uprights.

NEW CARNATIONS.

ATLANTIC.—This is a Perpetual Malmaison variety, raised in America and "disseminated" in this country by Messrs. Allwood Brothers. It possesses in a marked degree that precious gift of fragrance which one instinctively associates with the Malmaison Carnation and the white petals have just the faintest suggestion of the old Malmaison tint, though they are nearly white. A few blooms showed a hard, displeasing eye, but the best of them are gracefully double, much like a small grandiflora Paeony bloom. The plants which accompanied the vase of blooms were sturdy and floriferous. Award of merit to Messrs. Allwood Brothers.

NIGLER.—The name is somewhat misleading, as one would expect to see an exceptionally dark flower, while, as a matter of fact, several varieties—Carola and Topsy, to mention only two—are darker. But it is a splendid flower and a welcome addition to the crimson sorts. The flower stems are unusually long and it seems to be very free blooming. Award of merit to Mr. C. Engelmann.

TORFADOR. As shown, this is a blush pink Lancy Carnation, freely striped with deep scarlet,

though we should expect these colours to become rather darker in the summer. It is a true Perpetual of good form, free flowering and vigorous. Award of merit to Messrs. Allwood Brothers.

WIVELSFIELD WHITE.—This good white Perpetual Carnation had already received the R.H.S. award of merit. It is the whitest of the white Carnations and has all the appearance of a bloom that will continue fresh for a considerable time in a cut state. The raisers claim an "Old Clove fragrance" for it, but we could not detect any, though perhaps the cold weather was responsible. Award of merit to Messrs. Allwood Brothers.

ALLWOOD'S VIVID.—This Perpetual variety was decidedly the brightest Carnation in the Show. The intense glowing colour seemed to vibrate and almost dazzle one. It is chiefly scarlet-cerise with a sheen of rose on some of the incurving petals. We suspect that its form was against it with the judges, for it did not receive any award, but the quaintly crimped appearance of the petals appealed to many visitors who were first attracted by the brilliancy of the colouring. It is a free flowering variety and more than likely to become popular. Shown by Messrs. Allwood Brothers.

SWEET VIOLETS

How to keep the stock strong and healthy.

JUDGING from the great numbers of bunches of splendid flowers seen in the markets and in private gardens this spring the Violet is again becoming very popular. It is truly an amateur's plant. Even in the smallest garden there is room for a few plants both in frame and open border. The season has now come to propagate the plants by means of layers or runners, as they are sometimes called. Early layering of runners must be carried out on old plants growing in frames. These old plants must be kept quite clean—free from faded leaves and from moss on the surface of the soil. It is bad for the plants and the new runners if the cultivator treads much on the border; such treading can be done without and should be avoided.

On some of the plants—the single-flowered more particularly—the runners are very similar in character to those of the Strawberry, and there need be very little difficulty in pegging them down in the soil. Some of the double-flowered varieties form small plantlets or tufts close to the parent plant, so in their case it will be necessary closely to examine them and to surround the small tufts with a suitable compost in much the same way as one does when engaged in layering the old double-flowered Primulas.

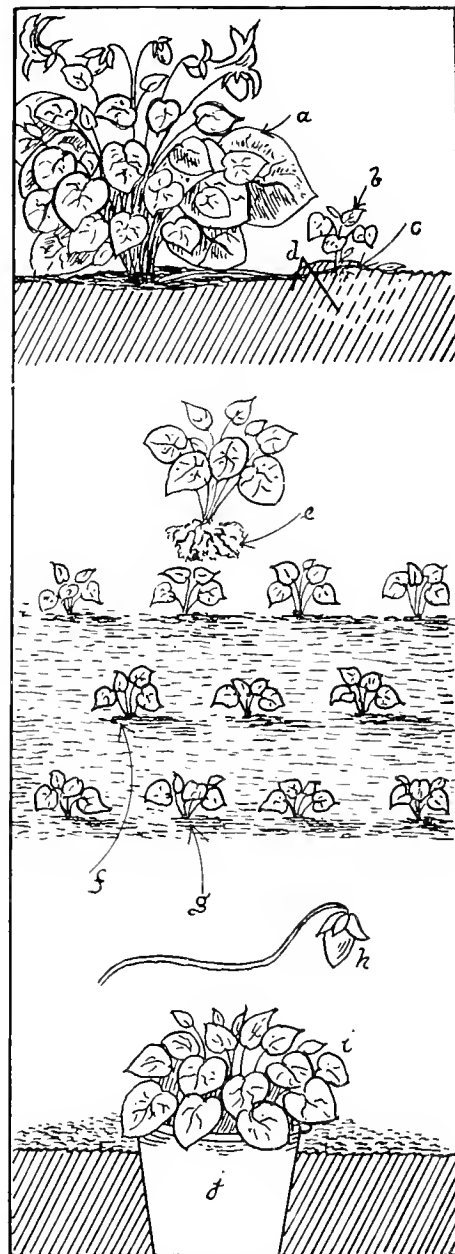
Nice fresh compost should be used. The layers would root in the border soil, but this having been in the frame since last September, will probably be getting sour. It is helpful, therefore, to mix some well rotted loam, leaf-soil and sand together in equal quantities and place a good handful round each runner, mixing the compost with the surface soil of the border.

In the accompanying sketch *a* shows the old plant; *b*, the runner of a single-flowered specimen; *c*, the new compost; and *d*, the peg making the runner secure in its position. Without the peg the runner, when, perhaps, it is partly rooted, may get displaced and root-formation be considerably delayed. Maintain the soil in an even state of moisture and in a very short time roots will form as shown at *e*, in the sketch.

The ground must be deeply dug and enriched with rotted manure; then plant as shown in the following sketch, disposing the young plants as shown at *f* and *g* respectively so as to have equal

space between them. From all plants seed-pods, *h*, must be pinched off; they form freely on some old plants and help to exhaust their strength.

If any plants of the double-flowered varieties are wanted next autumn and winter for flowering in pots in the greenhouse or conservatory it is wise to place the young well rooted layers direct into their flowering pots in spring, and to plunge the pots in the border soil instead of planting them out and then lifting and potting them in autumn. I have found the plan answer well. A little more



METHOD OF PROPAGATING THE VARIETIES OF SWEET VIOLETS.

labour is necessary in regard to potting and watering early in the season, but then there is no potting needed in the autumn. The letter *i* shows the thriving plant in the plunged pot, *j*.

The best position is one in the centre of the garden or on a border west, north west or north-east of a wall. Always avoid a border open to cold draughts, as plants exposed to such rarely escape being infested with red spider.

Princess of Wales and La France, single, and Marie Louise and Comte de Brazza, double, are probably the most satisfactory varieties, though there are other excellent sorts. GEORGE GARNER.

BORDER PHLOXES

Some hints on culture and a selection of varieties.

IT is doubtful whether any other hardy perennial for garden decoration excels the Phlox. Coming into flower in July the plant "carries on" well into the autumn, thus proving a decided adjunct to the flower garden when other flowers, especially bright flowers, are beginning to get scarce. That old species, *P. decussata*, has played a prominent part in giving us the beautiful florists' varieties which we prize so much to-day. The herbaceous Phlox has achieved a large measure of popularity during the past few years, but it is still not so widely grown as its merits deserve. This, no doubt, is due to the fact that many people are neither conversant with the better modern varieties nor realise the length of their flowering period. The Phlox is not a fastidious plant, but it is rather a gross feeder and to obtain the best results it should be given a well cultivated position. A good rich loam that has been deeply dug and well manured—old stable manure, thoroughly decomposed is best—will suit the Phlox admirably.

When planting, some sort of colour scheme should be borne in mind and the heights of the different varieties must not be forgotten. There are quite dwarf Phloxes, which must be reserved for the front of the border. On the other hand the planting should not be too formal. Those readers who have visited Kew Gardens during the summer and early autumn will well remember the borders of Phlox, admirably planted in large drifts of one variety, e.g., a large group of Mrs. Jenkins (white) might be followed by a group of W. Watson (pink). A most common mistake is to let the plants grow into very large clumps as from such the flower spikes are never first-rate. Large clumps are best divided up in the autumn, replanting the outer portions and discarding the worn-out central portion. Another error is to loop up too many shoots to one stake, as this gives each group a besom-like appearance. It is better to retain six to eight strong growths—discarding the remainder—and to spread these out and attach to separate stakes.

It is not necessary to have long stakes towering above the plants; all that is required are short stakes which will prevent the shoots from being blown down by wind or rain. Phloxes require copious supplies of water, and a mulch of well decayed stable manure will greatly assist in producing and preserving the pleasantly fragrant blossoms. The value of this mulching was well exemplified during last year's drought, when Mr. Jones repeatedly staged wonderful spikes of blossom at the Royal Horticultural Society's meetings.

Apart from its value for garden decoration, the Phlox is excellent for cut flower, as the fragrant blossoms are generally appreciated in the house, though the tendency of the flowers to shed buns them from the dinner table. The fragrance of the

Phlox is, perhaps, "brought home" to us more when walking in the garden after dusk on a summer's evening.

The best time to plant Phlox is undoubtedly the autumn, but excellent results may be obtained by planting now. The sooner this planting is done, the better will be this year's results.

The following varieties will be found excellent for large and small gardens: Mrs. E. H. Jenkins, Tapis Blanc, Fraülein von Lassberg, all white; Selma, clear pink; Le Mahdi, violet blue; Le Siecle, salmon pink; Eugène Danzanvilliers, soft lilac blue; Etna, a dazzling crimson scarlet; George A. Strohhelm, somewhat similar colouring; Paul Martin, china rose; Dr. Königshofer, brilliant orange scarlet, deeper eye; Baron von Dedem,



THE BEAUTIFUL SALMON-BLUSH PHLOX HANNY PFELEDERER.

scarlet and blood red; Dr. Charcot, blue; Elizabeth Campbell, salmon; Frau A. Buchner, pure white; H. J. Jones, rosy scarlet; William Watson, soft pink, mauve eye; C. Edwards (an improved Aubrey Alder), salmon; Jesse Waters, salmon orange, carmine eye; Hanny Pfeleiderer, salmon-blush; Thor, salmon-red, carmine centre; Rosenberg, fiery carmine-violet with blood-red eye; Imperator, rich crimson; Horrie Freeman, salmon-cerise; W. J. Robinson, deep carmine-red; and Autumn Merce, soft lavender. The above list contains some of the best varieties from the garden decorative standpoint.

When thinning out as already advised, plenty of cuttings will be available. They should be taken in the same way as Chrysanthemum cuttings and inserted in pots, pans or boxes of sandy soil and placed in a cool greenhouse or frame. These cuttings will provide plants for next year. Trade growers of Phlox raise their plants from cuttings, which is the most satisfactory method of propagation. When well established they may either be

planted out where they are to flower or placed in large pots to bloom in the conservatory. Phloxes are ideal for this latter purpose, as they brighten the conservatory at a time when "showy" flowers are scarce. H. Q.

TWO CROCUS SPECIES

Obtain the Award of Garden Merit.

AT their meeting on February 23 the Council of the Royal Horticultural Society gave the award of garden merit to *Crocus Tommasianus* and to *C. speciosus*. Both are good doers and will, with ordinary care, increase rapidly in any well drained British garden. Their only enemies are field-mice and pheasants. Both species produce seed so freely and multiply by the formation of so many small corms that, so long as their foliage is allowed to remain until it becomes brown (about the end of April), permanence and increase are assured. The only attention they require is an occasional replanting when they become too thick. The one brightens the garden in the early spring; the other tones the browns, reds and yellows of the dying year.

Crocus Tommasianus flowers, as a rule, just before most forms of *C. vernus* and about the time of the old Dutch yellow *Crocus*. It has a slender grace that most of the Dutch forms of *C. vernus* lack, and is, when open, of a clear and delicate colour, described by Maw as sapphire-lavender and by Bowles as amethystine-violet. No Dutch *Crocus*, except the one I hold the most beautiful of all, Margot, is so tender and pleasing in shade. When closed the flowers of most forms are of various shades of grey. It is a variable plant, especially, perhaps, in the colour of the buds; but there is a deep purple variety, a pure white, and a particularly pleasing one, called "pictus," with flowers marked at the tips with a darker blotch, below an apical white spot.

Crocus Tommasianus does well in many places at Wisley, in the open and in the light shade of shrubs and trees, but does not prove quite so happy as many in the grass. Its best place is on the higher parts of the rock garden where it may seed down and gladden the early days of dull February with drifts of lavender violet, which will not interfere in the least with the flowers that are to follow after. It should be planted in August or September, and seed should be sown as soon as ripe in the open to germinate with the growth of the corms in the spring.

Crocus speciosus flowers in September and October and is the most reliable and showy of all the autumn-flowering species, unless it be *C. nudiflorus*, great drifts of which form one of the beautiful autumn features of Wisley and which, though so abundant in its easily accessible native home, is scarcely known in the nurserymen's catalogues. *C. speciosus* should be planted in July. It will grow in short grass, where, as at Wisley, it may be left alone for years, and every year will give stretches of blue among the green of the grass and the brown of the falling leaves without any further care. It will grow under light shade and in the open, and is proper for the herbaceous border and the lighter shrubbery, the grassy bank and the rock garden, the edge of the wide woodland walk and the field garden. A strong and vigorous flower, it is calculated to withstand all reasonable buffetings of autumn. In its typical form it is beautifully pencilled with blue on a pale lilac ground, but varies much in colour and size; and a number of names have been given to more or less distinct forms, the most remarkable of which are the var. *Aitchisonii*, the giant of the species and flowering later than

the type, collected by Mr. H. J. Elwes in the East (for while *C. Tommasianus* is more Western in its distribution, *C. speciosus* stretches away into Armenia and perhaps into Persia); Van Tubergen's var. *Artabir*, intermediate in colour and season between var. *Aitchisonii* and the type; var.

globosus, a bluer, later-flowering variety; and some white and grey forms which Mr. Bowles has raised, which are still rare, but beautiful in their blue pencilling on a white ground, and therefore preferable to the better known pure white form, which is rather starchy in shape. F. J. CHITTENDEN.

PLAN THE GARDEN FIRST

The writer urges that architects should take the garden into consideration and design it simultaneously with the house.

WITH the great majority of architects it is the rule to design the house first and the garden afterwards. Almost invariably is this so in the case of suburban property and small villas, while for terrace houses "gardens" are rarely ever thought of. Even where gardens are plotted the architect rarely troubles to plan them, and either leaves the plot bare or allows the builder to do his best (or worst) with the area allotted to the back garden. True, the front garden area is usually dealt with so far as specifying the sort of wall or fence to be erected thereon and the positions of the main and side entrance paths, but rarely is the garden behind planned to its best advantage by the house designer. That this is wrong from every point of view—æsthetic, practical and financial, I propose to prove.

I postulate that a well arranged garden adds appreciably to the value of any dwelling house, therefore it must "pay" the house-owner or landlord to have the most made of any ground attached to a house. Further, I urge that not only does a well planned garden show off the house from the exterior point of view, but it increases the interior values—that is when the garden is planned before the dwelling, and the dwelling sited to command the best view of the garden. I go further and say that the siting of the house should be subordinate to the amenities or possibilities of the garden, and, if necessary, it should be set at an angle, or sideways, or even turned round, with its back to the road! This may not look "pretty" on the "elevation to the road," but if the roadside faces north and there is a prospect of a pretty garden behind, it is the better way. Naturally, the placing of the kitchen and offices on the road side of the house calls for more attention and skill on the part of the architect, but that is what he is paid for. My first proposition, then, is that the house should be sited in relation to the actual or potential garden, and not the garden loosely arranged round the house.

In planning the garden consideration should be given to all its natural features, such as the slope of the ground, if any, as existing trees, or, possibly, a stream; also to any irregularity in its shape. If the house to be erected thereon occupies a corner site, a triangular or an odd-shaped piece of ground, there is both more call and larger opportunity for effective treatment. Needless to say, all trees should be left standing, as far as possible. Where the ground slopes the house should be placed on the highest part, and the dwelling should be so planned that the best view of the garden be obtainable from the best rooms of the house. Where practicable, the kitchen also should command a bit of a view, and the windows not have their outlook on a blank wall; this will be better for the health and spirits of the cook and also for the cooking. In planning the garden it is important that each part of it bear a definite relation to the house and that the lines of these parts be so arranged that the whole is symmetrical and pleasing.

In addition to the æsthetic advantages of a properly arranged garden there are several practical

ones in planning it before building the house. In the first place any excavations such as those for the garden walls, for Lily ponds, for "sunk" gardens or for forming a terrace can be carried out while those for the house foundations are being made, and, further, the soil excavated from them can be carried direct to the parts to be filled in or raised, thus saving the cost of dumping and afterwards carrying the earth for levelling up. Next, if the garden walls are to be of brick, they can be erected at the same time as the house is being built, and by the same bricklayers and labourers—time, cartage and overhead costs all being thereby reduced. Another incidental advantage is that brickbats, broken bricks or pieces of stone could be utilised in the garden construction straightaway, thus saving on the cost of brickwork and the double handling of such waste material from the house in building. Further, if and where concrete is used in the garden construction, for which it has many advantages, the mixing-boards and materials will be handy, and time and money be again saved to the builder or contractor. The use of concrete in forming the garden has the further advantage of utilising odds and ends of brick, stone, slate, tile or other hard substances thrown out by the house-builders and otherwise costing money to remove. Here, again, the necessary cement is probably on the ground, the water-taps in position, and the mixing-boards handy. However, as every contractor knows the saving in costs and charges by doing two jobs at one time, and by the same hands, I need not labour the point.

In planning the garden the careful architect will have taken advantage of any natural features, and particularly the lie or slope of the ground. If he designs a lawn on sloping ground he will probably have more excavated soil than he needs for its levelling; this can be utilised for forming a terrace or a bank at the bottom to divide the flower from the vegetable garden. For it goes without saying that a vegetable plot, however (necessarily) small, should always be included in the garden scheme. Incidentally such division of the garden area does not diminish, but adds, apparently, to its size, while it greatly enhances its amenities. If the site be level it can easily be embellished either by raising a low terrace walk or sinking a shallow Lily pond, or making a miniature "sunk" or Rose garden. This need not be excavated to a greater depth than 18 ins. or even 14 ins. Moreover, it has the further advantage that the excavated earth can be used to form a terrace, thus affording three different levels at one operation; this alone gives distinction to a garden plot even of the tiniest. These differing levels call for steps, another simple, cheap, but effective, feature of garden decoration. Naturally, that economic plastic material, concrete, would be used for forming the sides and bottom of the pool for Lilies or other aquatic plants—nothing adds distinction and beauty to a garden so much as the presence of water.

Another quite economical but very decorative feature to a garden, whatever its size, is a pergola. This also can be easily and cheaply formed—

when the men are on the job. From twelve to eighteen simple ferro-concrete piers with old timbers laid across them, or branches lopped from any trees that may have to be felled for the house-building, are all that is necessary. The pergola should cover the main path, or it might run close to and parallel with the house, or form a pleasing break between the pleasure and the vegetable gardens. Yet another small but effective feature in garden construction is the seat. This can easily be formed in the wall of the terrace, or that at the end of the garden or in the bank separating the two divisions. For small property I do not recommend "garden ornaments"; one good piece, however, may well be placed in the centre of a sunk garden; sundials are out of the question, of course, but a single flower vase or cement plant tub (they can be bought as low as 17s. 6d. each) on a concrete pedestal, would serve to break the monotony and enliven the dulness of an ordinary back garden plot.

Whatever the means employed, however, for constructing or adding decorative features to a small garden, I do plead that gardens be formed, even to the smallest class of dwellings and also that the garden be planned before the house and created during its building. Obviously, time and labour are saved; costs of materials and overhead charges are reduced, and the letting or selling value of the house so provided with a well planned garden is more than proportionately raised. I trust I shall not be accused of setting "the cart before the horse," for on the contrary, I maintain that it is good, sound policy to prepare the plans for the whole before planning the part, even the major part of house property. Naturally, the same principles apply to houses standing in their own grounds or to villas in the country, but my contention is that they are quite as requisite and desirable for small houses and that in the case of the latter, their application "pays" everyone concerned—the landlord, the house-owner, the occupant and the builder. E. W. RICHARDSON.

EUCRYPHIA PINNATIFOLIA

ALTHOUGH discovered as long ago as 1845 and introduced in 1859, this beautiful Chilean shrub (sometimes a small tree) is far from common in gardens. Near London it is perfectly hardy; it has been known to survive 32° of frost. Yet it is evident that its cultivation is not thoroughly understood, or we should see more of it. Experience shows that it needs, more than anything else, cool, moist conditions at the root. At Kew, grown as an ordinary isolated lawn shrub, it has never lived long, owing, probably, to its inability to withstand the fierce spells of heat which, if often short, are not infrequent in the Thames Valley. The best success with it has been obtained by planting it in association with *Erica mediterranea*. The Heath keeps the ground permanently shaded and cool, and it is not greedy at the roots. At planting-time a few barrow-loads of peat and leaf-soil should be put about the roots. The shrub is evergreen, its leaves being made up of three or five lustrous dark green leaflets. The flowers are 2½ ins across, a conspicuous feature being the large bunch of stamens with yellow anthers. Opening as they do when the flowering season of trees and shrubs in general is waning, they make the shrub particularly attractive. This shrub is not common in gardens, no doubt due to the fact that it is not easy to propagate or transplant. However, seeds are produced now in this country, so this should facilitate propagation. It has in the past only been increased by layering.

CORRESPONDENCE

TRANSPLANTING TIMES.

REFERRING to the enquiry on the above subject in *THE GARDEN* of March 25, page 143, it is an undoubted fact that the end of April or beginning of May are favourable times for planting either Yews or Hollies, or, indeed, many other evergreens. Many good judges prefer to wait even a month later, and on heavy, difficult soils I know of a very successful planter of Yew and Holly hedges who preferred the middle of June. But I may say in my experience that, provided the plants are *well rooted*, either Yews or Hollies and most other evergreens can be planted with perfect safety from September to June, always provided the soil is fit to work. I have been most successful in autumn planting, and there again one must have moisture either natural or applied, and with the ground warm and the plant in an active condition, it will make young roots in a very short time. During the war, when every day counted, I moved some three acres of various evergreens, commencing on the day after August Bank Holiday, and not a single loss was incurred. Among the plants so handled were Thuyas, Cypresses, Yews, Hollies, Spruce and other Firs. Some plants are difficult to transplant when in a dormant condition; for example, *Berberis Darwinii*. I have seen the roots of this plant rot away in cold, wet soils. The best time to move it is either April or October. I believe it to be true that if you have to move any evergreen which is badly rooted, or not specially prepared for moving, that it is best to plant when signs of growth and general vitality are evident, and that is either early autumn or spring. Properly grown nursery plants may be handled, as I have already said, from September to June. Naturally, care must be taken to see that the plants do not lack moisture until re-established.—F. GOMER WATERER.

PRUNING FRUIT TREES.

A MAN in business has very little leisure in these days for writing to the papers and none at all for controversy. My only reason for writing to *THE GARDEN* was to enter my protest against the close pruning of Apple trees, which although established, have no bloom buds formed on the spurs, and having done so, to let the matter drop; however, as Mr. W. Mason (page 120) asks for further information, I will do my best to give it. In the first place there seems to be considerable confusion in the terms bush and pyramid trees. With most people the terms are interchangeable, while others call a practically unpruned tree, growing as it likes, a bush, and a formed and pruned tree a pyramid, to distinguish it from a standard. I cannot now refer to the number of *THE GARDEN* in which my letter appeared, but if I used the word pyramid it was because there was an illustration of well pruned trees to which I referred and which were called pyramids, and if my having done this has caused any confusion in the mind of your readers I offer them my apologies, for it was not my intention to recommend the pyramid form.

When I learned to prune fruit trees at the School of Horticulture, Ghent, in 1870, there were in Mr. Van Houtte's gardens some lovely pyramid Pear trees trained with four or six wings, each wing perfectly flat and radiating from the centre stem like the spokes of a wheel so that one could get in to prune with ease and all the wood was exposed to sunlight and air. This I should call the finest form of pyramid. Then we have such trees as were illustrated in the recent issue of *THE GARDEN*, and lastly, we have the all-too-common sort of sugar-loaf tree, pretty well solid with branches (owing to close pruning) and a fitting

site for a blackbird's nest. I need scarcely say that the first and last forms are not in any way suited to commercial fruit-growing; the first being much too expensive to form and keep up, and the last unprofitable. The fruit-grower has to shape and prune his trees somewhat in accordance with their natural habits, aiming at the form illustrated, upright growers having their branches thinned out so as to admit light and air to the centre of the tree, and those of a more spreading habit receiving similar treatment, but with the result that they are not the same shape, and the two types should be planted alternately so as to economise space. Each branch of the tree is treated as a single cordon.

The distance to plant apart varies with the soil and also the variety planted. I have seen Bramley's on paradise stock in Norfolk planted 24 ft. apart and grown so closely to each other as to make it very difficult to walk between and quite out of the question to get any kind of cultivator among them, but on ordinary good soil 18 ft. will suffice, especially if the alternate planting of an upright and spreading tree is adopted; on light land 12 ft. to 15 ft. is enough. The best upright-growing Apples are Annie Elizabeth, Barnack Beauty, Ellison's Orange, Hector Macdonald, Herring's Seedling, Melrose White and Worcester Pearmain.—A. H. PEARSON.

V.M.H. AWARDS.

I HAVE been connected with horticulture for the major part of half a century and have personally known most of the eminent men connected with it, and am not surprised to find that dissatisfaction exists concerning the bestowal of this distinction. At the most, the V.M.H. is merely a society's medal, awarded by a little circle, whose acquaintance with horticulture must necessarily be limited and in a great measure limited to that part of it which immediately concerns the R.H.S. What the determining factors are that govern the Council's decisions in awarding the medal to certain persons no one outside that body can tell. But, Mr. Editor, without mentioning names, for there is no need in discussing a principle to cause pain to any one of the sixty-three elect there is one person holding the V.M.H. whom I have never seen, never heard mentioned by anybody in the horticultural world and have never known what he did or seen his name in print except in the list of V.M.H. holders. What has this gentleman, who is absolutely unknown to thousands of gardeners and horticulturists, done that he should have been deemed worthy of this special distinction? There is a great deal of horticulture outside the R.H.S., perhaps infinitely more than the Council in its corporate capacity has any idea of, but those who run the machine, as you pointedly put it, seem to be especially favoured. "Scrutator" (page 132), says, "it is only fair to point out that the Council are not unduly generous to themselves." That is, beyond any question, purely a matter of opinion, considering that practically one-fourth of the total number of V.M.H.'s. or to be precise, fifteen of

them, have been bestowed upon members of the Council and officers, as appears by the title page to this year's List of Fellows. Mr. John Fraser is not "a Show Bird" occupying some prominent honorary position, but a diligent, painstaking journalistic worker of many years experience. He has rendered valuable service to horticulture in a way that has seldom been recognised by the R.H.S. and therefore his present appointment has been received by his many friends and acquaintances with the utmost satisfaction.—SENEX.

A DISTINCT ALMOND AND THE "BLACK APRICOT."

I SEND you a photograph of a very fine and distinct Almond from one of two large trees in Mr. H. E. Richardson's garden, Shankill County,



A BEAUTIFUL CRIMPED-PETALLED PALE-FLOWERED VARIETY OF THE ALMOND.

Dublin. The flowers are very open, much larger and of better substance than the ordinary Almond, pale pink inside the edges, wavy, and of a lovely shell-pink shade. They measure 1½ ins. across. The branch from which the spurs photographed were taken has been cut exactly a fortnight, and is still fresh, unlike most Almonds the blossoms of which drop quickly when cut. These fine trees are probably about thirty-five or forty years old. Unfortunately for envious beholders, they cover every spur with flower buds and make very few free shoots suitable for propagation.

When I opened my March 4th copy of *THE GARDEN* and read the verse, "March Morning":

"Four corners to my garden span,
Four almond trees in bloom.
What should I ask of God or Man?
My heart has no more room!"

I saw plainly that Miss Friedlaender has never seen *Prunus dasycarpa* or she would expand her heart to take it in. Of all the white-flowered *Prunus* I say confidently there is none to approach or excel this beautiful tree. It is commonly called in nurseries, I am told, the Black Apricot, but unfortunately, it does not seem common in gardens or nurseries. The tree here came from M. Simon Louis of Metz. It is a middle-sized tree, and bends gracefully, showing smooth, slender branches. The leaves, which have not yet appeared this season, are oval and rough. The sepals in bud state are reddish, the flowers, borne on short stalks, when fully open are 1½ ins. across. The great merit and beauty of *Prunus dasycarpa* are its lasting qualities and the substance and purity of its petals. A few branches cut when in bud placed in water give great pleasure, watching it opening from the bright reddish sepals of the solid white buds to the fully

expanded flower. Its quality and texture in comparison with *Prunus communis* is as that of the best Irish poplin to the thinnest of pongée silk. The tree in this garden has not borne fruit which is described as being dark purple with a tawny austere flesh. Its native country is unknown.—W. PHYLIS MOORE, *Glascow*.

[Some sprays in the bud state which Lady Moore sent for the Editor's table, unfolded rapidly when placed in water and were almost all expanded the following morning. The blossom certainly deserves her encomiums.—ED.]

THE MAIDEN PINK.

THE species of *Dianthus* are so numerous and the botanical differences so fine in some cases that their distinctions often are not readily discernible. On page 133, under the heading of "An Easy and Fragrant Plant," a question is asked as to the difference between the Maiden Pink (*Dianthus deltoides*) and *D. graniticus*. The first named has stems with short branches near the top, each ending in a single flower, rarely two, and they (the flowers) always have a short stalk above the uppermost pair of leaves. The five petals are rather widely separated, never touching one another by their edges, and have a transverse purple line at the base, with some purple spots on a white ground above this. *D. graniticus* has never more than one or two flowers on a stem, and both are surrounded by the uppermost pair of leaves, without a stalk. The flowers are smaller, the petals touch one another by their edges and there are no spots. These are the broad distinctions, but there are others, for the two are widely separated botanically and belong to different sections. When both are growing freely it will be seen that *D. deltoides* has branching stems, which *D. graniticus* never has. They could only be connected by hybridisation.—J. F.

THE HARDY CITRUS.

I WAS much interested in the article on Citranges in Ireland which appeared in your issue of March 4. Although the Citrange has a disagreeable flavour when eaten raw, I would suggest that if treated like its relatives, the Citron and the Kumquat, and placed in brine for a week or two, then boiled and treated with syrup, it would form a delicious preserve. *C. trifoliata* has, I believe, proved of greater service as a stock to graft on than for hybridisation. I wish to draw attention to the fact that *C. trifoliata* has proved perfectly hardy in the Eastern Counties. A tree about 12ft. in height, which grows in the open at the Botanic Garden, Cambridge, withstood 30° of frost last year, and in the following spring it was covered with white fragrant blossom, and the abundant fruit which followed ripened well. I believe that if its hardy constitution and decorative appearance were more generally known it would be far more often seen in our English gardens. At any rate, there is no need for it to be confined to Ireland or our Western seaboard when it may be seen growing in chilly Cambridgeshire to perfection.—H. H. WARNER, *East Herts.*

Citrus trifoliata is probably harder than the Laurel, but its lack of popularity seems not difficult of explanation. It is due to the unfortunate fact that, in ordinary situations, it seldom flowers, and yet more seldom fruits.—ED.]

ALPINES AND ELEVATION.

AN interesting question is raised by H. Stuart Thompson on page 132 when speaking of alpenes which he has found at varying elevations on different ranges of mountains. The question is that some plants ascend to greater elevations on the high Swiss Alps than they do on lower

ranges of more southern mountains, and that they descend to lower elevations on the latter. The suggestion that the ground of the high Alps is warmer than the air is no doubt one reason. Another may be that the ground of the high Alps is covered for a greater part of the year with snow than is the case on more southern ranges of mountains. I would suggest a third reason, namely, that many alpenes in Britain do not ascend to the top of the mountains, but choose a place lower down where they can get a more continuous supply of moisture and, at the same time, get shelter from the hurricanes of wind which frequently prevail. This is particularly noticeable in the case of such alpine Willows as *Salix lanata*, *S. Myrsinites* and *S. Lapponum*. These may often be near the edges of perpendicular rocks or otherwise, but always where they get a considerable drainage from higher ground. The driest situation where I have found *Saxifraga oppositifolia* was on the peak of the Brecknock Beacons at an altitude of 2,910ft. On dripping or moist rocks of the old red sandstone on the shores of the Moray Firth I have seen it at 50ft. above the sea and lower. In the shelter of rocks by the crater-like top of Ben Lawers it grows and flowers freely early in June. This mountain is 3,984ft. high. *Sedum roseum* is abundant below the tops of many of the Breadalbane Mountains, but is plentiful near sea level on the Moray Firth. *Silene maritima* and *Armeria maritima* behave in the same way.—HORTULANUS.

GARDENING PROVERBS.

I AM sending you a gardener's alphabet of proverbs, from a page of grandfather's gardening notes.—L. E. T.

Autumn-sown annuals flower soonest and strongest.

What you sow in spring, sow often and thin.

Bulbs bought early are best chosen. If you wish your Tulips to wake up gay, they must be all be in bed by Lord Mayor's Day.

"Cut my leaves this year, and you won't cut my flowers next year," said the Daffodil to Tabitha Tidy. Cut a Rose for your neighbour, and it will tell two buds to blossom for you.

Don't let me forget to pray for travellers when I thank Heaven I'm content to stay in my own garden. It is furnished from the ends of the earth.

Enough comes out of anybody's old garden in autumn to stock a new one for somebody else.

But you want sympathy on one side, and sense on the other, and they are rarer than most perennials.

Flowers are like gentlemen—"Best everywhere."

Give Mother Earth plenty of food and she'll give you plenty of flowers.

He who can keep what he gets, and multiply what he has got, should always buy the best kinds; and he who can do neither should buy none.

If nothing else accounts for it, ten to one there's a worm in the pot.

Jobbing gardeners are sometimes neat, and if they leave their rubbish behind them, the Hepaticas may turn up again.

Known sorts before new sorts, if your list has limits.

Leave a bit behind you—for conscience's sake—if it's only *Polypodium vulgare*.

Mischief shows in the leaves, but lies at the root.

North borders are warmest in winter.

Old women's window-plants have guardian angels.

Pussy-cats have nine lives and some pot-plants have more; but both do die of neglect.

Quant, gay, sweet, and good for nos-gays, is good enough for my garden.

Rubbish is rubbish when it lies about—compost when it's all of a heap—and food for flowers when it's dug in.

Sow thick, and you'll have to thin; but sow Peas as thick as you please.

Tree-leaves in the garden, and tea-leaves in the parlour, are good for mulching.

"Useful if ugly," as the toad said to the Lily when he ate the grubs.

Very little will keep Jack Frost out—before he gets in.

Water your Rose with the slop-pail when it's in bud, and you'll be asked the name of it when it's in flower.

Xeranthemum, Rhodanthe, Helichrysum, white, yellow, purple and red. Grow us, cut us, and hang us with drooping head. Good Christians all, find a nook for us, for we bloom for the Church and the Dead.

You may find more heart's-ease in your garden than grows in the Pansy-bed.

Zinnia elegans flore-pleno is a showy annual, and there's a coloured picture in the catalogue, but—like many other portraits—it's a favourable likeness.

[The above shows that there were good gardeners long ago, though one takes grave exception to "Sow Peas as thick as you please."—ED.]

CLUB ROOT IN CABBAGES.

IS it possible still to procure "Seride," the preparation which some seven years ago was recommended in THE GARDEN as a preventive against "Club"? I found this entirely satisfactory and used to procure it from a Watford chemist, but am now unable to get into communication with him. If any reader can assist me I shall be most grateful.—C.

A LITTLE-GROWN PLANT.

I SAW a clump of a charming plant in flower last September in Mr. Samuel's garden at Wrexham, where I had been taken by a friend to see his one year old Delphiniums in bloom. He told me its name was *Bidens dahlioides*, so when I got home I tried to look it up in my gardening books; but one after the other they were drawn blank until I came to Bailey's big American Dictionary, and there it was just mentioned as a sort of footnote at the end of the article "Bidens," which means that not very much is known about it. In despair I took "My Garden in Summer" down. Of course, I should have done so before. What books those three volumes, "My Garden in Spring," "My Garden in Summer" and "My Garden in Autumn," are! They are vade-mecums for nearly everything that is good for garden decoration in the hardy plant line. Mr. Bowles, their author, is a very fine flower painter, and he has an eye for floral arrangements indoors. To this, possibly, we owe the mention of *Bidens dahlioides*. He says it is very pretty, particularly the white variety. Mr. Samuel, at all events, prizes it highly as a cut flower, especially when mixed with *Gypsophila*. Incidentally, I have found in my search for *dahlioides* that the genus *Bidens* is one of the happy dumping grounds of the botanical classificationalist; or perhaps it should be called an eclectic conglomeration of species of pronounced cuckoo-like propensities. That there is some ground for these animadversions may be gleaned from the pages of a modern gardening dictionary, wherein we find that one species once a *Bidens* is now a *Dahlia*, and that two which were once upon a time, the one a *Cosmos* and the other a *Coreopsis*, are now *Bidenses*. One can see in a dim way the method of these changes. The large, pinnate bushy foliage suggests a *Dahlia*; the thin, wiry stems a *Coreopsis* and the blush flowers a *Cosmos*. *Bidens dahlioides* is an excellent plant to grow for cutting in September.—JOSEPH JACOB.



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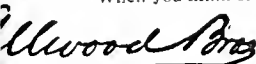
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4d. extra for orders under 3s.

Strong vegetable plants, wintered in open: Cabbage, Leeks, Tripoli Onions, Coleworts, Pickling Cabbage, Cos and Cabbage Lettuce, Perpetua Spinach, 100, 1/9. Rhubarb, best named, red, 6, 1/6. Sage, Thyme, Mint, Marjoram, 6, 1/6. Parsley, best curled, 12, 1/4. Cauliflower, strong, transplanted, wintered in frames, 20, 1/6; 50, 3/-. Asparagus, colossal and giant, strong 2 year old roots, 30, 4/-; 100, 7/6.

HARDY PERENNIALS, very strong, transplanted, to flower this year. Best strains procurable. Achillea, Perry's double white, 3, 1/6. Aconitum, handsome new large flowering named, 3, 1/6. Aster alpinus, rare lovely rockery plants, 2, 1/4. Agrostemma, crimson, 6, 1/6. Alstromeria, Peruvian Flame Flower, 2, 1/4. Alyssum, gold dust, 6, 1/6. Alpine Wallflowers, 20, 1/6. Alpine Pinks, 12, 1/9. Anchusa italica, Dropmore, lovely blue, 6, 1/9; Anchusa angustifolia, true deep blue, 6, 1/6. Anemone japonica, pink or white, 2, 1/4. Anemone pulsatilla, a most beautiful spring flower ring hardy perennial followed by handsome fruit, 2, 1/4. Anthemis montana, 6, 1/9. Aquilegia, Kelway's hybrids, 6, 1/4. Arabis, double white, 6, 1/6. Aubrietia, rich purple, 6, 1/6. Auriculas, lovely alpine varieties, 4, 1/6. Antirrhinum, bushy plants, lovely new colours, 6, 1/4. Brompton Stocks, large, year old, 6, 1/6. Christmas Roses, large crowns, 1/4 each. Campanulas, blue or white dwarf or tall, 3, 1/4. Campanula pyramidalis, 2 year old, 3, 1/6. Canterbury Bells, single, blue, pink, mauve, white, or Dean's grand hybrids, 12, 1/9; double, 6, 1/6. Candytuft, perennial, 3, 1/6. Carnations, good border, 6, 1/6; separate colours, white, yellow, crimson, scarlet, 6, 1/9; Grenadin, lovely double scarlet, 6, 1/9. Centaurea montana, blue, white or rosy mauve, 6, 1/6. Chrysanthemums, strong rooted cuttings, best early, mid and late, all colours, separate or mixed, 6, 1/6. Cerastium, 12, 1/9. Cistus (Rock Rose), 6, 1/9. Coreopsis grandiflora, 6, 1/4. Cornflowers, Kelway's blue, 12, 1/6. Daisies, new enormous double blooms, red or white, splendid for bedding, 12, 1/4; mixed, 20, 1/6. Delphiniums, best named, large 2 year old, 2, 1/9. Delphiniums, grand, large flowering hybrids, light or dark blue, year old plants, 3, 1/6. Dianthus, Kelway's lovely double or single, 12, 1/6. Dianthus, creeping, bright pink, 6, 1/4. Delytrea, Bleeding Heart, large roots, 1, 1/4. Erigeron (Stemless), mauve Marguerite, 4, 1/6. Erigeron, new Quaker's, 3, 1/6. Erysimum, Golden Gem, 20, 1/6. Forget-me-nots, best dwarf blue, perennial varieties, 12, 1/4. Funkia subcordata grandiflora alba (Corn Lily), most lovely, pure white, exquisitely fragrant flowering, prized for cutting, very handsome, large glaucous green leaves, 3, 1/6. Gaillardia grandiflora, 6, 1/4. Galega (Goat's Rue), 6, 1/6. Gladiolus, best large flowering, 12, 1/9. Geum Mrs. Bradshaw, large double scarlet, 2, 1/6. Geum, scarlet, 4, 1/4. Galtonia, hardy white Lily, long stout stems covered with waxy bells, 2, 1/4. Gypsophila paniculata, 6, 1/6. Gypsophila, dwarf, 12, 1/9. Heuchera, scarlet, 4, 1/4. Hollyhocks, lovely colours, single, 6, 1/6; double, 4, 1/6. Honesty, crimson and white, 6, 1/4. Iceland Poppies, Excel-hor strain, 6, 1/4. Iris germanica, separate colours, mauve, white, blue, purple, yellow, 3, 1/6. Iris, large flag, splendid colours, 6, 1/6. Kniphofia, handsome Torch Lily, 3, 1/6. Linum (Blue Flax), 12, 1/9. Lily of the Valley, giant variety, soon flower, 6, 1/6. Hardy Lilies, large, orange red and tawny, 3, 1/6. Linaria dalmatica, 6, 1/6. Lobelia cardinalis, 4, 1/6. Lupinus polyphyllus, pink, white, blue, 6, 1/6; mixed, 12, 1/9. Lupin, true, yellow or white, 3, 1/6. Lychnis, scarlet chalcidonica or Salmon Queen, 6, 1/6. Malva, bright pink, 6, 1/6. Monarda (Bergamot), Cambridge scarlet, 2, 1/4. Montbretias, new varieties, 12, 1/6. Pansies, best large flowering, and separate colours for bedding, 12, 1/6. Papaver piosum, rich orange blooms, 6, 1/6. Phlox, best, large flowering, mixed, 4, 1/6. Phlox, best large flowering, all colours, 3, 1/6. Paeonies, separate colours, 2, 1/6. Paeonies, mixed, 3, 1/6. Poppy, Oriental Queen, enormous blooms, 6, 1/6. Physalis (Giant Cape Gooseberry), 6, 1/6. Pinks, coloured garden, 12, 1/9. Pinks, double white, 6, 1/6. Potentilla, double crimson, 6, 1/6. Primulas, hardy assorted, for succession of bloom, 6, 1/6. Pentstemon, large bushy scarlet, Southgate Gem and grand Excel-hor strain, 6, 1/9; smaller good plants, 6, 1/4. Pyrethrum, Kelway's, 6, 1/6. Pyrethrum James Kelway, large scarlet, 2, 1/4. Pyrethrum, double red, white, pink, 3, 1/6. Rose Campion, bright crimson, 6, 1/4.

Rudbeckia speciosa, 3, 1/6. Saponaria, pink rockery, 6. Scabious, Sweet, 12, 1/9. Scabious caucasica, large mass 1 year plants, 3, 1/6. Silene compacta, pink, 15, 1/6. Star (Lamb's Wood), 6, 1/4. Star of Bethlehem, 6, 1/6. Star (Sea Lavender), 3, 1/6. Sweet Rocket, 12, 1/6. Sweet William, double and single mixed, lovely colours, 12. Sweet William, lovely scarlet, pink, and Crimson Bee, 6, 1/4. Thistle Queen of Scots, 3, 1/6. Thalictrum (the Maidenhair), 4, 1/6. Tritoma (Red-hot Poker), 3. Tussilago (hardy winter Heliotrope), 3, 1/6. Verbascum tall, 6, 1/6. Valerian, crimson, 6, 1/6. Veronica, 1/4. Viola, separate colours, for bedding, and good mix, 12, 1/6. Viola cornuta, mauve, purple, blue and white, 12. Viola masses of bloom for rockery, etc., 12, 1/9. Violas, strong root cuttings, Maggie Mott, best mauve; King Cup, best yellow; White Swan, best white, 6, 1/6. Sunflowers, new red, 3. Aster, Michaelmas Daisy, good named sorts, 3, 1/6. Achillea new very bright Crimson Queen, 3, 1/6. Antirrhinum strong autumn sown (not transplanted), 12, 1/6. Centaurea dealbata, lovely large fringed pink flowers, pretty self foliage, 3, 1/6. Chinese Pinks, very showy, 6, 1/6. Campanula macrantha, tall, large mauve blooms, 3, 1/6. Chelone barb coral red lobster flower, 3, 1/6. Crucianella, lovely for rock deep heads of pink bloom, 6, 1/6. Dianthus, rock, dwarf lovely colours for rockery, 6, 1/6. Hypericum (St. John Wort or Rose of Sharon), large yellow blooms, evergreen gl foliage, 4, 1/6. Incarvillea Delavayi grandiflora, beautiful large Gloxinia-like blooms, handsome foliage, 3, 1/6. Iris glandulosa, large golden yellow flowers, bold and handsome, 3, 1/6. Lavender bushes, fragrant old English, 3. Japanese Pinks, very pretty colours, 6, 1/4. Pyrethrum Queen Mary, large double rose pink, 2, 1/4. Oriental Poppy very large salmon blooms, large plants, 3, 1/6. Shiu Poppies, beautiful art shades, 6, 1/4. Pansy Coquette Poisey, beautiful pale mauve, for bedding, 12, 1/10. following Primulas are quite hardy, thrive best in damp situations, and do well in pots: Primula japonica, 4, 1/6. cortusoides, bright rosy purple, 4, 1/6. P. Bulleya beautiful shades, 3, 1/6. P. pulverulenta, rich colours, 4. P. denticulata cashmirena, large heads, light purple, 3. Rudbeckia Golden Ball, double, 3, 1/6. Perennial Sunflower Miss Moll's, etc., 6, 1/6. Saxifraga, mossy, white, pink, crimson, 4, 1/4. Rock Rosee, trails of lovely coloured flower rockery gem, 6, 1/9. Cheiranthus, Siberian Wallflower masses of bloom all summer, 20, 1/6.

Strong transplanted plants for cool houses: Agapanthus, large blue African Lily, year old plants, 3, 1/4. Agath (blue Marguerite), 4, 1/4. Asparagus Fern, erect or trailing, 4, 1/4. Begonias, scarlet, crimson or Salmon Queen, evergreen, perpetual flowering, 6, 1/6. Auriculas, grand large flowering, show, 4, 1/6. Cannas, Crozy's splendid hybrid large 2 year old, 3, 1/6; 1 year, 4, 1/4. Cinerarias, exhibit and stella, 6, 1/4. Eucalyptus, 4, 1/4. Francoa (Brit Wreath), 6, 1/6. Gloxinias, grand, large flowering, narrow, 2, 1/4. Heliotrope, very large heads, fragrant blue, 4, 1/4. Lobelia cardinalis Queen Victoria, 4, 1/4. Nicotiana white or crimson Tobacco, 4, 1/4. Primula malacoides (rock blue), 6, 1/6. Primula obconica, new, giant, lovely colour, 4, 1/4. Rehmnia, pink trumpet, 3, 1/6. Salvia, Scarlet, Zurich, 4, 1/4. Salvia, scarlet coccinea, 6, 1/4. Saxifraga Mother of Thousands, trailing, 4, 1/4. Streptocarpus, love Cape Primrose, large blooms, lovely colours, 4, 1/4. Arisaema (Fit Palm), 2, 1/4. Celcia critica, pretty spikes of yellow and mauve flowers, 4, 1/4. Cyclamen, choice new sorts, 3, 1/6. Fuchsias, choice varieties, 3, 1/6. Marguerites, large yellow and Covent Garden White, 4, 1/4. Smilax, trailing, 3, 1/6. Cordyline Dracaena indivisa Vetchii, handsome hardy plant strong 3 year old, about 9ins., 2, 1/6. Tomatoes, strong transplanted, best sorts, 6, 1/6.

Hardy Climbers. Ampelopsis Vitellid, self-clinging Virginia creeper, large roots, several trunks, 2/6 each. Clematis calyba (Traveller's Joy), rapid grower, large roots, 2/- each. Calystegia, double pink, Morning Glory, rapid climber, 3 root 1/6. Tropaeolum speciosum, scarlet, 2, 1/6; Apios tuber rooted Wisteria (not sinensis), 2, 1/4. Passiflora Flow hardy, blue and white, 2, 1/6. Peas, everlasting, white, pink, mixed, large roots, 3, 1/6. Eccromocarpus, truss orange flowers, 2, 1/4.

MRS. PYM, F.R.H.S.,
10, VINE HOUSE, WOODSTON, PETERBOROUGH

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Asparagus.—Where it was decided to plant new beds, the preparation of them will have been completed as advised in the "Gardening of the Week" of February 4th. Select now the first favourable opportunity when the soil is in good working condition to get the planting done. If the beds are made from 3ft to 4ft wide, it will allow of three rows of plants a foot apart; this size is a very convenient one for gathering from. Among several good varieties to choose from, Giant French and Conover's Colossal may be relied upon. Roots two years old will probably be the best for planting for general purposes, and it is most essential that Asparagus roots be exposed as little as possible to the air while planting is in progress.

Potatoes.—The planting of the earlier varieties should be now completed as soon as it can be arranged, allowing a distance of from 20ins to 30ins. between the rows according to the vigour of the variety. Wherever the soil is at all heavy or cold, line the channels or holes with decayed leaf soil before placing the sets therein. If more convenient to arrange the planting of the mid-season and late varieties now there is no reason why this should not be done, but allow more room between the rows.

Peas and Broad Beans.—The quantities required to be sown at intervals of every few weeks will depend upon the demands of the establishment. It is essential for a sowing of Peas to be made every three weeks to keep up a continuous supply. Both Peas and Beans delight in a good depth of well worked soil, but give the site which has the strongest soil to the Beans. Peas should always be staked when a few inches high.

Marrow Beds.—Where such material as leaves and stable litter can be spared, a good heap should now be got together in readiness for these plants. It is a good plan to sow some seeds in pots indoors and grow them along, planting out when large enough and well hardened off, and also to sow direct into positions on the bed, placing two or three seeds under a hand light. Where space is limited and it is inconvenient to arrange for the trailing varieties, the bush varieties give excellent results.

Seeds of Brassicas to be got in now include a further sowing of Cauliflower, Cabbage, Broccoli, more Brussels, also an early sowing of Kale and Savoys. Sow thinly and take steps to protect seedlings from birds as soon as they are through the soil. Plants from earlier sowings of several of the above should be pricked off and planted out as they become large enough to be handled.

The Flower Garden.

Spring-flowering Plants are benefited by a shallow stirring of the soil and this also checks the seedling weeds. Attend at the same time, if necessary, to the edges of the beds. Where Hyacinths are used for bedding purposes such staking as is necessary must be seen to. Tall growing Tulips, too, in exposed beds may need support; small green stakes are the most inconspicuous to use for this purpose.

Sweet Peas.—Should a further sowing be necessary it should be done at once, and it will repay always to give the plants a rich and well worked soil.

Dahlias.—Any increase of stock required may be readily obtained either by cuttings or division of the roots. For the former method the old plants should be introduced into medium heat and sprayed occasionally when plenty of young growths will soon be available. Division of the roots may be carried out either before the plants recommence their growth or when they have just started.

The Hardy Fruit Garden.

Strawberries.—If a light forking or hoeing has not yet been given it should be done, at the same time removing any decayed leaves. Where, on heavy land, owing to the constant rain, any intended spring bed has not been planted, it is not too late to carry the work out now. If the alpine section are grown, a bed planted now will, with careful attention, give quite good results towards the latter end of the summer. Should a further increase of these be required it is easily obtained from seed, a method which is preferred by some growers. Sow in boxes of light soil and as soon as the seedlings are large enough, prick them out a few inches apart on a shady border until ready to plant in their permanent quarters. For this section put

the plants a foot apart in double rows, allowing 15ins. between the rows.

Fruits Under Glass.

Disbudding Peaches and Nectarines.—This work should be commenced as soon as the fruits are nicely set and the young shoots have begun to show increased activity. The operation was described and illustrated in THE GARDEN for March 4. The disbudding should be done on different occasions, thus minimising the danger of any sudden check by the removal of too many growths at once. First of all remove those growths which are badly placed and those that are entirely on the underside of the branches. The two essential growths to take care of are the ones chosen eventually to form the basal growth and the leader. The former, furnishing us with our next year's fruiting wood, is sometimes even more important to us than a leader, for the general use of a leader is to carry the sap up to nourish any fruits there may be on the branch, and it sometimes happens that it may be more beneficial to the tree if it is cut back quite early in the season to the growth which has been retained for next year's fruiting.

H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Potatoes.—Proceed with the planting of second-early Potatoes. The ground should be well worked and generously manured beforehand. Exercise care when planting, so that the sprouts are not damaged in any way. Early sorts growing in frames should be allowed abundance of ventilation during fine weather. Apply water regularly, so that the tubers may be induced to swell freely.

French Beans.—Fortnightly sowings of these should be made indoors, so that regular supplies may be maintained. Growth is now quicker and stronger, so better results may be expected from this time onwards. A mixture of three parts loam to one part of leaf-mould suits them well. Syringe the foliage twice daily when the weather is fine. Close the pit early in the afternoon, so that as much sun-heat as possible may be retained.

Saladings.—Prick out early sowings of Lettuce into frames and keep growing freely. Sow Radish seed at frequent intervals, encouraging a quick and regular growth, so that crisp, succulent roots may be produced. Mustard and Cress is still better sown in boxes under glass.

Peas.—Plants that have been brought forward under glass should now be transferred to their final quarters. Care must be taken that the roots are not unduly damaged during the process. Stake the young plants with small feathery Spruce twigs, as these not only act as a support, but protect the tender growths from the cold winds so prevalent in the North during early April.

Planting Asparagus Beds.—Where the planting of new beds is contemplated, the work should be carried out as speedily as possible. Provided the soil has been well prepared during the winter months, the site should only now require to be well forked over and a sprinkling of agricultural salt and soot added. Opinions differ regarding the width of the beds, but that which conveniently holds two rows of plants is generally admitted to be the most suitable. Where the intention is to form new beds by sowing seed, this work may also be carried out now. Sow in rows 18ins. apart, and thin out the seedlings to 15ins. apart in the rows.

Fruit Under Glass.

Peaches.—Trees carrying heavy crops will benefit by an occasional watering with weak liquid manure, or a discreet dressing of an approved chemical manure, well watered into the border. Thin out the fruits of early crops when they are about the size of nuts. Pots of late varieties now flowering in the orchard house should still be assisted by hand fertilisation.

Late Vines.—Late Vines will now be considerably advanced, so that all superfluous shoots should be rubbed off without delay. Guard against sudden bursts of sun-shine, as the tender growths of some varieties scorch readily if ventilation is not carefully attended to.

Strawberries in Pots.—Early batches with rapidly swelling fruit should now be assisted with copious waterings of liquid manure. Syringe the foliage freely during fine weather, so that red

spider may be kept in check. As soon as the fruit shows a tendency towards ripening, remove the plants to cooler quarters, as this treatment materially assists in giving the fruit a more piquant flavour.

The Hardy Fruit Garden.

Mulching Newly-planted Fruit Trees.—To prevent newly-planted fruit trees suffering from drought, more especially on very light or gravelly soils, they should be given a generous mulch of well decayed farmyard manure. This helps to keep the root-run cool and checks evaporation.

Strawberries.—In making new plantations of these it is essential that the ground be in good heart, and provided that the bed has been well prepared during the autumn, it will now break down freely, and the young plants should have little difficulty in establishing themselves. Runners that were planted in the reserve border with a view to spring planting are now starting into growth, so should be lifted carefully and planted on the new site, in rows 2ft. apart and 15ins. apart in the row. Established beds should have the Dutch hoe run through between the rows, so that the hard crust may be broken, thus allowing air and warmth to be more readily admitted; weeds are also checked, and root action quickened.

The Flower Garden.

Biennials, such as Sweet Williams, Canterbury Bells and Agrostemmas, should now be transferred to their flowering quarters. Other hardy plants, such as Hollyhocks and Geums, which have been growing in the nursery garden with a view to the embellishment of the hardy border, should also be transplanted at this time.

The Rose Garden.—Hybrid Perpetual Roses should now be pruned, but it is wise to leave the more tender varieties of Teas and Hybrid Teas till later. Give the beds a dressing of well rotted farmyard manure, or a dusting of fertiliser. Point it lightly in between the plants.

JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

CONSERVATORY AND GREENHOUSE.

Veronica Hulkeana is, in some ways, the most beautiful of all the shrubby Veronicas and is an excellent plant for the cool greenhouse. In the West it does well outdoors planted at the foot of a warm wall, but even then large plants are apt to die suddenly without any apparent reason. Under pot cultivation one seldom sees it in good condition. Although its successful cultivation does not present any serious difficulty, most cultivators, I believe, fail because they keep it too close and warm. It is easily propagated at this time in a case in a cool house, and plants may be grown on into 5in. or 6in. pots the first season, standing them outdoors in cold frames during the summer, leaving the lights off on every possible occasion. If potted on the second season such plants should make fine specimens some 3ft. or 4ft. high. Cool treatment and plenty of air during all stages of its cultivation are essential.

Veronica speciosa and its many fine varieties are very useful for furnishing the conservatory or greenhouse during the autumn. They are easily propagated by means of cuttings, and only require cold frames for their successful cultivation.

Veronica diosmæfolia is a very dainty, compact species, about 1ft. in height, and produces its pale lilac-coloured flowers in great profusion during March and April; it is easily propagated by means of cuttings, and, like the others, enjoys perfectly cool treatment at all stages of its cultivation.

Impatiens Balsamina.—The common Balsam is a popular and useful annual for conservatory decoration during the summer and autumn months, and by making successional sowings it is easy to maintain a constant display. Towards the end a sowing may be made at this time in a temperature of 55°; sow thinly, and when germinated keep the plants well up to the roof glass, as they draw out very quickly. To prevent this they should, as soon as possible, be pricked off singly into small pots, placing them well into the soil, and at each successive potting they should be let well down in the pot, as they throw out roots from the stem and it helps to keep them dwarf. They require at all times a light, rich compost—some old Mushroom bed manure or well decayed stable manure should be added to the potting compost. Later on in the season they are best grown in a cool house—or even in cold frames.

There are several other species of *Impatiens* that are most useful for furnishing the greenhouse and conservatory during the summer, or, in fact, a warm greenhouse all the year round. *Impatiens Sultanii* is an old favourite, and is easily raised either from seeds or cuttings, and the same applies to the newer *I. Holstii*, a batch of seedlings giving quite a range of colours. The best seedlings can then be selected and propagated by means of cuttings. The beautiful *Impatiens Ohyeri* is the giant of the race, and if grown on in tubs, makes fine specimens some ft. in height and as much in diameter. If planted out in a bed in the conservatory it will grow 6ft to 7ft. high and remain in flower more or less all the year round, its large rosy-mauve coloured flowers bearing a striking resemblance to a *Milvina*. It is easily propagated by means of cuttings, and plants in 7in. pots are useful for furnishing the stages in the conservatory.

Campanula isophylla and varieties *alba* and *Mayi* make fine basket plants, for which purpose they have long been favourites. About this time plenty of good cuttings should be available, which will root readily in a case in a cool house, and should make good plants for autumn flowering. The variety *Mayi* is stronger growing and soon makes fine plants if three are grown in a 48 sized pot. It differs from the type in having greyish tomentose foliage.

Capsicum annum and its numerous varieties are very useful for furnishing the conservatory during autumn and early winter, their bright colouring and varied shapes always attracting attention, while their fruits are also useful in the kitchen. Seed should be sown in an intermediate temperature at this time, and when the seedlings are large enough to handle they should be pricked off singly into 3in. pots, potting them on as they require it, 7in. pots being large enough for the final shift. They require a rich compost and should be kept well and regularly syringed as they are very subject to attacks of red spider and also *Begonia* mite. The latter may be prevented by the use of Caniphell's Sulphur Vaporiser. During the summer the plants may be grown in cold frames.

Solanum Melongena, commonly known as the Egg Plant, is grown for decorative purposes, and seed should now be sown. This plant succeeds under the same treatment as recommended for *Capsicums*. *Solanum pyracanthum* and *S. integrifolium* are both worth growing for their bright-coloured fruits, which are useful for the autumn furnishing of the conservatory; they are easily raised from seed at this time, and can be grown in a cool house or even outdoors during the summer.

Royal Botanic Gardens, Kew.

J. COURTIS

OBITUARY

HARRY A. BARNARD.

THE many old friends, spread all over the world, of Mr. Harry A. Barnard will regret to hear that he passed away on March 14. He has entered his well earned rest after serving over sixty years with his firm, Messrs. Stuart Low of Bush Hill Park, and formerly of Clapton. A real plantsman, he had forgotten more than many horticulturists know to-day, but it was by his kindly help to and sympathy for others that he will best be remembered. Commencing his career with the Hugh Low who started the firm of that name, he has seen many of his old comrades predecease him, but three of them at the graveside at Abney Park Cemetery, Messrs. W. Isbell, E. Groves and Fred Jenkins, have served the firm in the aggregate for some 130 years. This is the second old comrade to pass away since Christmas. The late Mr. "Ted" Heath had been with the same firm for nearly half a century. F. J. C.

Winter Flowering Carnations at Wisley: Interim Report.—The following awards were made to Carnations at Wisley by a Joint Committee of the Royal Horticultural Society and the British Carnation Society. The judging was solely on the productiveness of the plants during the winter and upon their habit, and the colour and form of the flower. Award of

Merit—*Wivelsfield White* and *Mame Sunshine*, both sent by Messrs. Allwood and Messrs. Engelmann; *White Pearl*, sent by Messrs. Stuart Low; *The Herald*, *General Joffre*, *Aviator* and *Jazz*, all from Messrs. Engelmann; *Toreador*, sent by Messrs. Allwood. Highly Commended.—*Whiteall*, sent by Messrs. Stokes; *Mrs. Walter Hemus*, *Enchantress Supreme*, *Triumph* and *Wivelsfield Beauty*, all from Messrs. Engelmann and Messrs. Allwood; *Cupid*, *Lady Northcliffe*, *Mary Allwood*, *Peachontas*, *Mrs. Hamilton Fellowes* and *Iowa*, all from Messrs. Engelmann; *Lady Inverforth*, sent by Messrs. Stuart Low; *West Hall Scarlet*, sent by Mr. G. Carpenter; *Countess of Wilton*, sent by Messrs. Engelmann and Messrs. Stuart Low. Commended.—*White Wonder* and *Benora*, sent by Messrs. Allwood and Messrs. Engelmann; *Boadicea Nebraska*, *Fancy Carola* and *Marion Willson*, all from Messrs. Engelmann.

The Rose Annual, 1922.—This excellent publication, which is issued free to members of the National Rose Society (minimum yearly subscription, *res. 6d.*), teems, as usual, with interesting articles. A portrait and pen picture is given of that famous Rose raiser, Mr. Samuel McGredy, with interesting details as to how the hybridising and raising of new varieties is carried on. Other articles include "Roses in Pots," by the President of the Society, Mr. Edward J. Holland; "Notes on the History of the Moss Rose," by Major C. C. Hurst; "Bedding Roses," by Mr. H. R. Darlington, with reasoned opinions as to the best dozen for the purpose by eight experts in various parts of Britain; "Chemical Manuring," by Major A. D. G. Shelley; "Recollections," by the Rev. Jos. H. Pemberton; "Notes on the Spring Show," by Mr. H. Oppenheimer; "Exhibition Roses for Garden Decoration," by Mrs. H. R. Darlington; "Impressions of the Summer Show," by Mr. H. H. Thomas; "The Provincial Show," by Mr. A. C. Bartlett; "The Imperfections of Modern Roses," by Mr. John Parkin; "Climbing Hybrid Tea, Tea and Noisette Roses," by Mr. Walter Eastlea; "Budding Roses," by the Editor (Mr. Courtney Page); "Climbing and Rambling Roses in Gloucestershire," by Mr. B. W. Price; "Notes on Mildew and Black Spot," by Dr. Sauer; "The Newer Foreign Roses," by Mr. George M. Taylor; "New Roses at Bagatelle Trials," by Mme. Charles Siret; and "New Roses of 1921" and "The Rose Analysis, 1921," both by the Editor. Besides all these, our valued contributor, the Rev. Joseph Jacob, at present convalescing, we trust, from a serious illness, contributes in his inimitable way his impressions of the Autumn Show. In addition to all this very interesting matter and the portrait of Mr. McGredy already referred to, there are numerous half-tone illustrations, including a portrait of Mr. John Green (a new Vice-President) and blossoms of that wonderful new yellow Rose *Florence M. Izzard*, besides pictures in colour of *Mabel Morse* and *W. E. Wallace*, both Roses honoured by the Society in 1921. When one considers the many advantages offered to members by the N.R.S. and the quality of its publications it is small wonder that the membership roll is a long one.

Tomato Cultivation Under Glass and Outdoors.*—The author of this booklet has done good service to all cultivators of Tomatoes by writing a really charming essay on a very popular subject. Last year was an exceptionally good one for the growth and ripening of the Tomato, but it will also be long remembered as a year in which the destruction of the plants, almost throughout the country, was threatened by the white or "ghost fly." Many cultivators may

have decided on that account not to grow any plants this year but if they read this small book they will at once decide to grow more plants than in past years. No one should be without the book, not even large cultivators for market, as the instructions on the destruction of the "ghost fly" are so valuable. When one begins to read the book one feels one must go on to the end. Amateurs especially will find the instructions so helpful to them. They cannot fail, as the instructions from the seed-sowing to the seed-saving chapters, are concise, clear and to the point. There are several drawings showing how the planting and stringing of the plants should be done, and although the one showing the section of the house might be clearer—page 11—it shows the cultivator what he must do and how to do it economically. The raising of the seedlings, potting, training, feeding, fertilising of blossoms, fumigating, gathering and packing for market, private use and exhibition, insect pests and diseases, and the general management of the plants in various kinds of houses, small and large, are matters admirably dealt with. It is a pleasure to recommend a book containing so much valuable information in such small compass.—G. GARNER.

A Lovely Stonecrop.—A good number of the *Sedums*, or Stonecrops, are of considerable beauty, but, somehow they do not appear to be so largely cultivated as they deserve. They are generally specially suitable for dry, sunny positions, and mostly thrive in stony or gravelly soil unsuited to the majority of alpine plants. Of the large number in cultivation a few stand pre-eminent in their beauty, and should not be omitted from the choicest collection. *Sedum brevifolium* is one of these, and no matter what form of this Stonecrop is secured, there is little risk of its being unappreciated when properly cared for in the rock garden or the moraine. It has been well called "one of the brightest jewels of the race." It is among the tiniest of Stonecrops and provides a dense carpet, hardly rising above the soil, of charming little leaves varying in colour, according to the form, from green to purple, with many intermediate tints. The flowers also differ in colour, ranging from pink to white, often flushed with delicate pink or blush, and are of a good size for such a dwarf plant. One of the best forms in cultivation is that called *S. brevifolium* var. *Pottsi*. This was brought from abroad by the late Mr. Potts of Edinburgh, a keen flower-lover whose memory is also kept alive in *Montbretia Pottsi*. This variety is very beautiful, but it is impossible to describe in words the colouring of the foliage, which seems to consist of shades of green, purple and dull white with various other colours and with a pretty appearance caused by the larina-like shading of the foliage. Any form, however, is worth securing. Unfortunately, *S. brevifolium* is liable to decay in wet winters in certain districts with mild climate and a heavy rainfall. In such districts it is always prudent to protect the plants from the weather for a few of the winter months, say, from November until March, either by a sheet of glass or some other shelter, raised a little above the plants so as not to interfere too much with the light if the protection (such as a slate or board) be such as would prevent it from reaching the plants.

A very freely drained place should always be selected, with a gritty, open soil and a sunny situation. The variety *Pottsi* may generally be seen in the Royal Botanic Gardens, Edinburgh, where it seems to stand the winter better than on the more humid west coast. There is no difficulty in propagating *S. brevifolium* by division or by cuttings. It is found, among other places, on the mountains of Spain and Corsica.

* "Tomato Cultivation Under Glass and Outdoors," by R. V. Giffard Woolley, *Country Life*, Limited, 20, Tavistock Street, W.C.2; 9d. net.



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A VISIT to the R.H.S. meetings at this season of the year, displays a wonderful variety of flowers—a variety which is not, in fact, just at present reflected in our gardens. The predominant note in gardens for a week or so to come will be provided by the beautiful family of Narcissi with their considerable range of colouring and immense diversity of size and form from the saucer-cupped—if the bull may be forgiven—Poeticus forms to the great trumpet Daffodils. Tulips—especially the early-flowering sorts—have a staid primness which makes them most successful when used in formal beds and borders. The freedom and grace of flower of the Narcissi, on the other hand, allied with an equally gracious and free arrangement of leaf and flower in a naturally grown clump, are seen to best advantage when they are massed as naturally as possible. Happy is he who has open woodland, orchard or rough pasture to plant with these beautiful flowers, but almost every garden would provide a place where they would look delightfully natural. We hope next week to show happy groupings of this favourite flower in various situations, but it is by visiting at flowering time grounds where they are happily placed that one gains much essential knowledge as to their arrangement for effect.

Another Advance.—The beautiful new white trumpet Daffodil White Dame gained an award of merit "as a show flower" at the Royal Horticultural Society's Forced Bulb Show on March 14. It was raised by Mr. Guy L. Wilson of Broughshane, Co. Antrim, who showed five lovely blooms. It is chiefly remarkable for the fine pose of its perianth, which stands flat and at right angles to the trumpet, its exceptional whiteness and considerable size. It is said to have a vigorous constitution and to make broad foliage and large bulbs. Though it obviously would not withstand rough weather outdoors, this is undoubtedly a great advance in white Daffodils.

The Water Garden.—Water does not, in springtime, respond so quickly to the increasing power of the sun's rays as does the kindly earth, indeed it is a well known fact that water-logged soils remain cold where well drained, reasonably dry ones rapidly warm and so encourage the growth of plants. This property of water is, in reality, useful to the gardener inasmuch as it enables him to undertake

planting of aquatics when growth has made much dry-land planting inadvisable. True aquatics may be planted at any season before growth is completed, but it is as well to get them in reasonably early. This being so, the time has come to carry out the formation of new water gardens or to make any necessary alterations to existing work. The article in this issue touches only on details of construction. The question of design will shortly come under consideration.

The Working of the Land.—It is but too usual, at this season of the year, to get inclement weather. Of the necessity for protecting early crops it is probably unnecessary to speak, but it may be well once more to emphasise the danger of working on the land when the surface is wet, more especially after a fall of snow, hail, grapple or sleet. These wholly or partially congealed forms of rain, though

harmful to early crops, are really beneficial to the majority of sown seeds, inasmuch as the extremely penetrating quality of the moisture they provide greatly assists the germination of hardy seeds. Asked "how the land was," when the soil was wet after such a storm, a very old-fashioned gardener said, "quite all right if you keep off it," and that exactly sums up the situation.

Ply the Hoe.—The showers for which April is famous, whether very cold or warm and genial, will tend to consolidate the surface of the soil, though the amount of "setting" as gardeners generally call it depends very largely upon the character of the soil itself. Some soils and those of very varying appearance and texture are notorious for their tendency so to "set," while others give no special trouble in this respect. Aeration of the soil is a

stark necessity in gardening and such a tendency for the surface to consolidate must be constantly combated with Dutch hoe or pronged cultivator, whichever suits better the particular crop or has been found to give, on the particular soil, the most lasting results. Such cultivation is doubly useful. It not only encourages the plants; it discourages the weeds.

The Invaluable Annual.—It is remarkable how much the annual especially the hardy annual, is still depreciated, almost tolerated, by many enthusiastic gardeners. This is partly due, no doubt, to the fact that whatever can be raised from seed in a few months must necessarily be common. There are many whose chief pleasure lies in growing plants they seldom see in other gardens. The commonest reason for the neglect of annuals is that they have been tried and found wanting. The reason for this undoubtedly is that the average gardener does not sufficiently study the requirements of the different genera. Just because their season of growth is short it is imperative, if success is to be obtained, that they be given soil and aspect which suit their particular requirements and that they receive care in the matter of thinning and such like proportionate to their rapidity of growth. It is useless to expect Mignonette to thrive on sour soil or Eschscholtzias in semi-shade. In one respect, however, almost all kinds are alike—they appreciate a deeply and thoroughly cultivated soil. Annuals are, taking them as a whole, lighter in growth than perennials and this characteristic renders them admirable for cut flower.



THE HANDSOME PAPER-WHITE NARCISSUS WHITE DAME.

PRIMULAS FOR ROCKERY AND BORDER

There are few families of garden plants more indispensable than the Primulas. We are describing this week some of the most noteworthy for the rock garden and for beds and borders.

WHAT is the rock garden going to show us during the next few weeks? To-day, while the woods are yellow, there is a wonderful patch of blue in a shaded dell, a patch that owes its colour to the blue Primrose. This is said to be less vigorous than the wild type and to seed less freely. The latter is true: as to the former, it all depends upon cultivation. It can be as free and wonderful as any, little tufts of dozens upon dozens of varying blues that are worth a long journey to see. It is easy to raise from seed and easily divisible after flowering. Put down in half shade a patch of really stiff loam that inclines to clay, and there, if suitably enriched, you can be sure of the almost extinct double forms, in white, yellow and red, doing well. They are pretty little flowers, carried on by division as they form no seeds, that it is a pity to lose.

Every week—until July is passed—sees some new beauty expanded, reaching the climax in April and May and I think the best way will be to glance, according to their months, at just a few of them.

During April, one of the most forceful colours of all is provided by the wonderful moisture-loving *P. rosea*. This dies out again and again, unless planted where it is always abundantly supplied with moisture but, when happy, makes a very close and compact little rosette of leathery leaves, surmounted by trusses of carmine-pink Polyanthus-like flowers, sometimes as many as half a dozen being produced by a single plant.

Those charming mauve flowers, produced singly or in pairs, are *P. Allionii*, and please note how happily it thrives in that rock-crevice, where it will continue to flower almost until midsummer. Not far away, sheltered somewhat by an overhanging crag and surrounded by chippings so that the soil cannot become splashed upon its wonderful gold farina, is *P. bullata*, a Chinese species, with lance-shaped leaves and golden yellow flowers. It loves shelter and lime, hence the limestone chippings that surround it. *P. elatior*, the Bardfield Oxlip of the holds, both in its more familiar yellow and several colours, thrives anywhere and is a good perennial. *P. Forbesii*, often grown in pots, is never quite dependable in the open ground; sharp winters invariably kill it, but it is worth keeping in pots in a cold frame and planting out in spring to flower—a treatment often afforded to many a less valuable plant. Given a rich sandy loam and plenty of leaf mould, the fine downy foliage will develop to perfection and the flower stems will attain a height of 6 ins. to 8 ins. The flowers are magnificent, 1½ in. to 2 in. across, a lovely rosy pink with deep orange centre. *P. hirsuta*, a very desirable alpine Primula with woody stems and rosettes of handsome leaves covered with downy glandular hairs, should not be omitted. The flowers arise in umbels, varying from carmine to purple. This plant flourishes best in very well drained sandy loam and peat that runs deeply between crevices and fissures in the rocks. A variety or hybrid of this is *P. pubescens alba* (*P. nivalis* of gardens), one of the most charming of April-flowering species. *P. involucreata* also needs the margin of the bog to succeed, as do so many of the Himalayan species, and then rises to a height of 6 ins. The plant itself is in the form of a rosette of bright shining leaves, with numerous stems of fragrant bluish white flowers in umbels. *P. scotica*

is one of our own native species that is considered—by some—to be only a variety of *P. farinosa*, the Bird's Eye Primrose. The plants are very irregular in their flowering, sometimes deferring this until as late as June. They succeed best treated as biennials. With the month of May, however, comes the zenith hour of Primula time, when fresh species crowd upon the stage one after another, until—wherever one looks—Primulas seem to hold all the important positions, though Saxifragas run them very close.

Prominent at this season is *P. cortusoides*, of gardens, with lovely clusters of deep rosy pink flowers. It is readily raised from seed and loves a sheltered home where a large stone or shrub protects from cutting winds, though it must not be unduly shaded. A relative of the Bird's Eye Primrose, though larger and finer in every way, is *P. longiflora*, with lovely deep lilac flowers, the tube of which often runs to an inch in length. It is a species that needs a little care, planting on a slightly elevated position in moist fibrous soil, covered during summer with a layer of small stone chippings to check evaporation. *P. saxatilis* is another gem, one of those vividly coloured light-growing little plants that count. The leaves are small and the flower stems—which are very numerous—rise to a height of about 6 ins., with clusters of vivid rose pink blooms at the top.

One hardly knows whether to place the Auricula under April or May for the flowering season, for different plants always flower at different seasons, so that they overlap from the latter half of April into May. What richness and depth of satisfaction there is in the glorious velvety flowers! Vivid golden yellow, soft primrose, heliotrope, crimson, fawn, brown, purple, all with conspicuous eye and with the colour paling off slightly towards the edge of the petals. Round the edges of large

beds, in great clumps on the mixed borders and here and there in the rock garden, the display they make is superb. Surely, the acme of Primula refinement has, in them, been attained. Slightly less refined, perhaps, but a grand old flower all



PRIMULA MARGINATA IS BEAUTIFUL IN FLOWER AND INTERESTING IN FOLIAGE.



ONE OF THE FINEST OF THE AURICULA-LEAVED PRIMULAS—
PRIMULA HIRSUTA CILJATA.

the same, the Polyanthus wins easily when it comes to mere garden display. The lighter colours are especially showy. One loves to have these in great masses, not by dozens, but hundreds—or thousands. Packed closely with Tulips between they give a display on two levels that no summer scene can excel for colour intensity. Tulips of 15 ins. and upwards in stature should be chosen for thus interplanting, so that they are well clear of the heads of the Polyanthus. Does the Polyanthus provide any material for the rock garden? Certainly it does. Are there not the superb gold laced forms where, allied to a rich petal so deeply coloured as to appear almost black, you have a sharply marked clear gold margin, picking out the flower in very striking manner? Then, too, the blue, a rarely seen flower although perfectly easy to raise in quantity from seed. The plants are perfectly hardy and nearly as vigorous as the commoner type. Seed should be saved only from plants bearing the cleanest and bluest flowers. It is surprising how it is possible to improve the strain.

P. marginata is invariably charming as it nestles down in its little pocket and can always be distinguished by the silvery meal margin that decorates each leaf as though touched by some unusual hoar frost. The flowers are a soft violet rose and sweetly fragrant. The best way is to replant annually, sinking right down to the lowest leaves, for the plant is a regular stilt-walker and raises itself high above the soil in a very short space of time. Where replanting is neglected, the plant is but short lived, for the roots, that push from the stems, perish, and no amount of top dressing suffices to keep the plants "earthed up." *P. Parryi* must be placed where the roots are always really wet; it is almost impossible to provide too much moisture, provided this does not stagnate. The flowers are nearly an inch across, borne on stems fit, high, in heads of about a dozen and of deep tyrian purple. *P. Sieboldi* luxuriates in a light, moist, open soil, where the roots can creep just below the surface, for they have the unusual property of forming eyes here and there as they extend, thus giving rise to new plants. This enables the many beautiful named types to be re-produced perfectly true. These include some of the grandest of all



VARYING A LITTLE IN ITS SLATY HUE, THERE IS MUCH QUIET CHARM IN
PRIMULA INVOLUCRATA.

rock garden Primulas, with a wide colour range and great freedom of flowering, some of the most beautiful having fringed edges to the petals. This beautiful species is not, however, hardy everywhere.

P. villosa claims to be one of the oldest species grown in gardens and is readily recognised by the leaves, which are slightly sticky on both sides. It is an easy form to grow, simple to divide and readily raised from seed. *P. Aretotis* is a very interesting plant to possess as it is a hybrid between *viscosa* and *P. Auricula*, with spoon-shaped leaves and white or lilac flowers. *P. calycina* has leaves

that are glossy above and glaucous on the underside with small trusses of purple flowers.

Growing in large loose-leaved rosettes *P. carniolica* is a very desirable species, especially its variety *multiceps*, which bears larger and deeper blue flowers than the type. These are in heads, from three to ten in number, on stalks between 2 ins. and 4 ins. high, with light centres. For rich moist borders or open parts of the rock garden, *P. luteola* is a very showy form by reason of the depth of its round heads of pale yellow flowers, a striking contrast to the deeper centre. Lest you pass it by, stoop down and look closely at the Fairy Primrose (*P. minima*). Minute indeed are its proportions for it is only between 1 in. and 2 ins. high, with foliage scarce half an inch in length. The flowers are generally solitary, occasionally to be found in pairs and generally rose pink in colour, more rarely quite white. The plants flourish in chinks between rocks, where they can tuck their roots deeply into moist light loamy earth. The plant is of special value to those interested in hybridisation, for *minima* has a great disposition to fertilise with other varieties, growing near it. Therefore the deliberate transfer of the pollen gives a good chance of something new.

P. uniflora is a worthy species with which to conclude our May-flowering forms and a most unusual and interesting plant. The flowers are pale lilac in colour, usually one, but sometimes a couple on the scape and exceed in size that of the whole rosette of small leaves. It must be grown in patches so as to secure the best effect, the plants appreciating a moist sandy soil and a sheltered position.

I have not attempted to mention all the species—even all the good species, let alone hybrids and varieties, which make the rockery beautiful at the season under notice. I have not spoken, for instance, of those allies of *P. Sieboldi*, *P. Veitchii* and the even more beautiful *lichiangensis* with its curious rich brown calyces, nor of the many beautiful hybrid miniature *Auriculas*, such as should properly be classed as *P. pubescens* var. *Mis* J. H. Wilson, or what not, but which, too often, are set down as forms of *viscosa* or *hirsuta*. H. W. C.-W.



PERHAPS THE BRIGHTEST ROSE-COLOURED FLOWER THAT GROWS—*PRIMULA ROSEA*.

BORDER CARNATIONS FOR THE BORDER

Their treatment at this season to produce the best results.

THOSE who are fortunate in their gardens are able to indulge in autumn planting in full confidence that when March arrives and their Carnations commence the season's activities the stock will be fairly complete, and, what is a great asset, well established. The less fortunate must winter their Carnations in frames and plant them out at about the present time.

It does not seem so long ago when the rival virtues of autumn and spring planting were the subject of much controversy, each school "upholding their various opinions," though without undue heat. As ever, Nature has the last word, but it is generally agreed that, where soil and climate permit, autumn planting is to be preferred with the hardy sorts, and the reasons are fairly obvious. The recent heavy rains which have been so welcome in replenishing our depleted store of water have caked the surface soil in many gardens and where the Carnations are already established the first work connected with them is to ply the hoe to loosen and aerate the soil. A light application of some chemical stimulant at intervals from now onwards, till the flowering season arrives, will be very beneficial. The chief Carnation specialists offer mixtures which they claim to have found valuable and the excellence of their flowers fully justifies the assertion. For those who prefer to mix their own fertilisers the following formulae are suggested. Sulphate of ammonia 2 ozs. and super phosphate 4 ozs. per square yard. This is a good stimulant if the Carnation bed was well made previous to planting out the runners. Where doubts exist it would be well to add 1 oz. of nitrate of potash to the above. But whatever mixture is used care must be taken not to spread any on the leaves as they are liable to be scorched.

When making preparations for planting out the young plants that have been wintered in frames, the two chief essentials for success with Carnations should be kept well in mind. Carnations abhor shade, insisting on direct light. Good cultivation must be practised. These points observed it will be found that, given healthy stock to commence with, Carnation growing is a comparatively easy matter. Although the Carnation will grow and flower well in the average flower garden soil, when properly prepared, the ideal soil is a medium loam

(one that is neither light or sandy nor inclined to be clayey), that contains enough grit to render it porous. In cold gardens where rain water is liable to lie on the surface it is wise to make raised beds over ample drainage, but otherwise they are best on the level. Lime in some form is a necessity for good Carnations and when old mortar rubble can be procured this is one of the best methods of providing it. Should the soil be poor in plant food it will be necessary to add manure, and any of the customary forms will be suitable, always provided



A BORDER OF CARNATIONS APPROACHING BLOSSOM, SHOWING METHOD OF SUPPORTING WITH SHORT TWIGGY STICKS.

that it is not too fresh and raw. Spent Mushroom beds or matured farmyard manure that can be broken up, are the ideal forms of organic manure. Failing these use must be made of such as bone meal, basic slag and superphosphate of lime. Bone meal is not the most economical source of phosphates, but it is safe and sure and for a special purpose the little extra expense is often not a great matter. Formerly basic slag was used almost solely as a winter dressing, because in the form then only available it was very slow acting, but with improved machinery and methods it can now be obtained ground much more finely, and so

provides an efficient and cheap phosphatic manure for spring as well as autumn use. For Carnations it can well be used at the rate of quite 4ozs. to the square yard and should be well mixed with the soil, keeping it away from the surface and down in the root run.

Where a good show of bloom is desired and fresh plants are set out annually, a distance of 12ins. to 15ins. may be allowed from plant to plant, but if the plants are to remain for two seasons they will require an additional 3ins. each. A common error when planting is that of setting the plants too deeply in the soil. This should be avoided and the crown of the plant kept up as much as possible, always provided that the roots are sufficiently covered with soil. An objection to shallow planting is that there is a danger of wind disturbance, but this may easily be guarded against by either tying each plant to a short stake or by placing three closely around the plant.

The selection of varieties is always a matter open to much criticism and divergence of opinion, but I will hazard the following as being a satisfactory dozen. Bookham White, Border Yellow, Dora Blicke (orange-apricot with a sheen of gold), Elizabeth Shiffner (a handsome orange-buff), Fujiyama (an intense scarlet), Grey Douglas (a fascinating deep heliotrope with a sheen of French grey), Gordon Douglas (bright crimson) Duchess of Wellington (lavender), Innocent (pale salmon pink, almost a blush pink), Mrs. A. Brotherton (heavily splashed with crimson-purple on white ground, clove scented), Rosy Morn (fine rose pink), and last, but not least, Bookham Clove, a splendid crimson flower with a delicious perfume which "rivals the old Clove." This latter may be a matter of opinion, but it certainly is the best clove-scented Carnation we possess to-day, though it cannot equal the old original Clove Carnation, which has so long been lost to our gardens, of which it was said that the perfume was so strong and powerful that one plant would scent a whole garden.

A. CECIL BARTLETT.

A BEAUTIFUL CLEMATIS

AMONG the more vigorous climbing section, *C. Jouiniana* is one of, if not the best hybrid of the Clematises raised in gardens. Its parents are *C. Davidiana*, one of the heracleæfolia or sub-shrubby section, and our native species, *C. Vitalba*, the Traveller's Joy of our hedgerows. Free and strong in growth, it is an ideal climber for arches and pergolas. One of the best uses to which I have seen it put is clothing a very large stool of a Beech tree. When the tree was grubbed up, instead of disposing of the base, it was turned over, half-a-dozen plants of this Clematis were planted round it, and to-day every part of the stool is hidden with leaves and flowers. The leaves are dark green in colour, with almost a leathery texture. The flowers are white, tinged with blue, especially on the outside, about an inch across, and are freely produced in axillary panicles. In one catalogue the colour is described as mauvy white. One of the most important features of this hybrid is that it is autumn-flowering. Commencing early in September, plenty of blooms are usually to be found on the plants till frosts intervene. Unfortunately, some confusion exists with regard to the name. In many gardens this plant is grown as *C. grata*, but the true plant bearing this name is a Himalayan species. The latter, however, is very rare, and readers who obtain a plant under either of the names mentioned will be fairly sure to get *C. Jouiniana*.

A. O.

ECONOMICAL WATER-GARDENING

Much water and, consequently, money is wasted through bad planning and faulty construction. Follow some hints on sound construction and wise design.

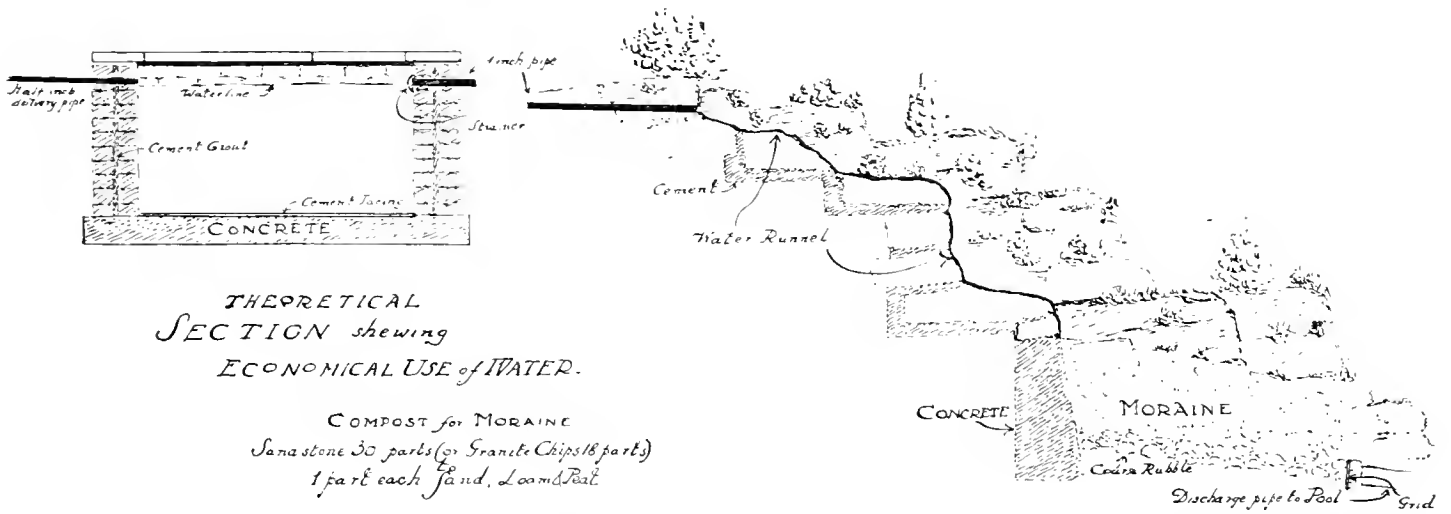
HERE are, throughout England, many Lily ponds and water gardens of which the only source of supply is surface drainage from land near by, and, it may be, from the roofs of buildings. Such an arrangement is never over-satisfactory, since in wet weather much water is emptied into the tanks or ponds in little time, while in periods of drought the level of the water falls very considerably or it may even fail altogether. It is astonishing what resistance Nymphæas offer to such conditions of drought, but the waterside planting inevitably dies out and the drying ponds, if anywhere near

Water power is really, in our climate, much more amenable than wind power, and in many country places a good and continuous supply is provided at a purely nominal running cost by the use of hydraulic rams. For domestic supply the power is usually provided by a convenient brook and the water delivered by a well, but where the garden only has to be provided for, the brook water itself is usually preferable to the cold spring water, so desirable for drinking and cooking purposes.

So much for the original supply, but it is rather of the economical use of water in the garden—

outlet very much lower down will then supply water to the standpipes with hose connexions which are so great a stand-by in the garden. When, some hot summer's evening, an orgy of watering is in progress, the trickle to the water garden will probably go dry for a few hours, but that will matter little if at all.

Now for the arrangement of the waterways after the precious fluid has left the securely jointed iron pipes which re-deliver it to the light of day. In order that it may not be lost as it trickles through the rock garden the channels should be cemented *below the level*. The stones over which



The illustration depicts the overflow from a Lily tank in the more formal part of the garden supplying the trickle of water which so enhances the appearance of the rockery, next watering the moraine and finally maintaining the informal pond in the rock garden.

the residence, become an insufferable nuisance, at once an offence to the sense of smell and a source of danger to health.

It is apparent, therefore, that unless a reliable natural supply is to hand some arrangement should be in existence to maintain the water supply. In many suburban gardens this is, no doubt, most readily effected by "laying on" the water supplied by a company or public body, but it must always be borne in mind that such supplies are but too liable arbitrarily to be cut off in time of unusual drought—just when, in fact, they are most needed.

What then remains? There are very few localities in which a well may not be sunk to reach water at a depth of roof, or less. In some districts a very few feet suffices to provide an excellent supply. Such a well, if the water be not too hard, will, with the assistance of an oil-driven pump, provide an ample supply. A few years ago there was a big demand for wind-driven water pumps which, although admittedly ugly, were supposed to pump water with little further cost than the original outlay. Experience has, however, proved that while some of these windmills are better designed and more effective than others, the best of them, owing to the cost of repairs, renewals and upkeep, are little, if any, cheaper in working than the power pump. They are not, in consequence, being installed to-day to anything like the extent that they were a decade or so ago.

since it is often expensive to procure—that the writer wishes to treat.

The same water may usually be made use of to provide the very desirable trickle in the rock garden, to water the "moraine" and to supply the water garden. For this reason it is very desirable to decide upon the lay-out of these three features at the same time, even though, for one reason or another, it is not intended to construct them all simultaneously.

It is wonderful what effects and benefits may be obtained with proper precautions from the supply produced by a half-inch pipe! The water, by the engine or ram as the case may be, should be delivered to a large tank which, if circumstances permit, may be built in adjacent high ground, but as they very seldom do permit, usually occupies the top floor of a water-tower. Such towers are certainly most "eyeable" when built of orthodox materials, such as brick or stone, and properly roofed. Their lower storeys then become available for some purpose for which space must be provided. There are many cases, however, in which the house is already in existence, and a water supply is urgently required but no additional outbuildings. The large cylindrical steel tanks on steel ganties then come in for consideration as being at once practical and relatively cheap.

However the tank be accommodated, the outlet for the rock garden fall, moraine and water garden should be near high-water level and another

it runs should be bedded in an inch or two thickness of good concrete and the joints between the stones made good with strong cement of the strength of "one and one" (one part clean sharp sand, preferably washed, and one part fresh, dry Portland cement). Bits of stone bedded in these joints before the cement has set will maintain the appearance of the work. Whatever pains be taken there will be a loss of water in its progress, however short, through the rock garden. This loss will arise partly by the splash, which will enable Ferns and damp-loving plants to flourish, and, especially in summer, very largely by evaporation. Where the supply is limited, therefore, one should not take the water by too devious a route.

We will suppose that, in natural sequence, the water next supplies the "moraine." "Moraines," when first attempted in Britain, usually had a sloping concreted bottom down which the water trickled on its way to the outlet. There was, of course, a loss by the capillary action for which the water was provided, but there was no measurable loss by soaking away. Experience has proved the concreted moraine unsatisfactory, so, to avoid total loss, the bed of the moraine should be made quite steep and no attempt should be made at the underground pool, which was the first idea of moraine makers. If the supply is taken direct to the moraine the pipe may be taken across the head of the latter, and so perforated as to water every part, but where, as

suggested, the moraine is supplied from the rock garden trickle, the moraine should not be over-wide or parts may quite fail to receive their share of water.

We have now left to consider the water garden proper. Where this consists of a little more than a Lily tank the matter is a comparatively simple one from a constructional point of view—its design is another matter. Such a tank should have a base of best concrete at least 6 ins. thick, this being itself faced with a highly smoothed surface of "two and one," or if the sand is not quite first-rate, of "one and one" cement. "Rendered, floated and set" is the trade designation for the finish which should be given. The sides may be of concrete similarly faced with cement, but they will look better if formed of stone, or even brick, filled in solid behind to a depth of 6 ins. or so with grouted concrete. This operation needs great care or the tank may prove leaky, and its repair will considerably inflate the total cost.

An informal pond with surrounding bogland presents other problems. This may be concreted in the way already described, but the concrete must pass right under the bogland which surrounds the water and must either be "dished" so that

it rises above water level at the edges or a proper watertight wall, as already described, must run behind it—below the ground, of course. If an extensive waterside bog garden is contemplated a good water supply must be arranged for as the evaporation from the bogland is much more rapid than from the surface of the water itself.

The waterside bog is ideal for the huge Candelabra Primulas—pulverulenta, japonica, Bulleyana, helodexa, sikkimensis, etc.—for Spiræas, Saxifraga peltata and other large-growing water-loving plants, but where little colonies of the water-loving Gentians, Pinguiculas Sarracenias, Trilliums, Cypripedium spectabile, Saxifraga granulata and even Primula rosea are desired, it will be well to provide a miniature bog supplied with running, rather than stagnant water between the moraine and pool level. This is easily contrived, and since water-loving plants are almost invariably fascinating, very desirable.

Of the planting of these various desirable features—the moraine, the rockery trickle, the running bog, the pool and the waterside—all of interest during the coming month or so, we shall hope to write during the next few weeks.

THE USE OF NETTING IN THE FRUIT GARDEN

The cultivator of hardy fruits, with many years' experience, knows well how essential it is to success that sufficient netting be available and that it be kept dry and in the best condition possible. The time has come again when every effort must be made to preserve the fruit blossom from damage by frost.

THE judicious placing of nets over fruit trees on walls not only preserves the blossom from being spoiled by frost, but hastens the setting of the young fruits and their early growth. Even two folds of fish-netting will make a difference of 4° of heat near the wall surface. Then there is the question of the measurement of netting when the cultivator is buying it. The square-mesh net spreads out more satisfactorily than the diamond-shaped. One hundred yards of the latter will not, when spread out to cover a wall surface, cover more than about 60 square yards. One hundred yards of the square-mesh netting will effectively cover about 80 square yards. Cultivators should bear this in mind when ordering nets from the merchant or manufacturer, as the latter generally measure the net laterally and longitudinally respectively. One thickness of small—½ in. mesh—netting will be sufficient, but the herring-net size will require to be placed on folded double.

As frost strikes downwards, it will only be necessary to cover two-thirds of the wall space from the top downwards. Under the coping make a strong wire secure to the wall; from this wire stretch other wires to stakes driven into the ground 3 ft. from the wall and 5 ft. apart. These wires will support the nets and prevent them blowing against the trees when strong winds prevail. The nets should be fastened to the wire under the coping of the wall, and, when let down, made secure to the stakes by means of strong cord. Nets should never be allowed to lie on the ground when not actually in use, as they soon rot.

To protect the blossom of choice bush and espalier Apples and Pears it is much the best plan to put up a light wooden frame or strong wires to a few wooden or iron posts. The tops

of each post should be covered with a tuft of hay or dried grass, made secure by tying with string, to form knobs, which will prevent the nets being torn. The supports for the nets should be quite 18 ins. above the highest branches of each tree. In the case of espalier trees, cross-laths should be fastened to upright stakes driven in near the centre of the tree and 5 ft. apart. The stakes should be about 1 ft. above the tree, and if wires are fixed to the ends of the T-shaped cross-laths, the nets will have a good frame to bear them up quite free of the branches and blossom. It is an easy matter to make the ends of the nets fast to short stakes driven into the ground at a suitable distance from the tree itself.

Although the leaves of Strawberry plants protect much blossom, the greater part of it is exposed to frosts if they occur, and some artificial protection is necessary. I have found the following simple method very useful and effective. Stakes were driven into the ground in rows 8 ft. apart from stake to stake, the rows being 6 ft. asunder. The stakes were 2 ft. above ground, and wires were fastened to the tops of them and secured to other stakes driven into the ground at the ends of each row. In this way the wires could be stretched tightly. All joinings of the wires and the tops of the posts being covered with hay tied securely, there was little risk of tearing the nets when they were put on or taken off.

I left the posts and wires in position in readiness for the nets again when the fruits were ripening. Without in any way disturbing the nets, one could crawl underneath them and gather the ripe Strawberries at will.

It is advisable to be a few days early in fixing the nets rather than a few too late; before the flowers open have the nets in position.

GEORGE GARNER.

TO ASSIST THE FRUIT CROP

Many an amateur's tree which never fruits could be made productive by a small expenditure of trouble at flowering time.

THERE are, it is well known, many varieties of Apples, Plums and Cherries which are what fruit growers call "self-sterile"; that is to say, that their blossoms must be fertilised by pollen from another variety if fruit is to be produced.

The usual and proper method of overcoming this disability is to interplant such self-sterile varieties with another sort flowering at about the same season, so that insects "working" the trees will have every opportunity to cross-pollinate them. In the case of orchard standards this is the only practicable way of ensuring fertilisation, and if a plantation has been made of, say, Cox's Orange Pippin, either some of the trees must be replaced or the existing trees must be "cut over" and reworked with another variety.

The case of the amateur with a few trees—either bushes, pyramids, espaliers, cordons or fan-trained—is, however, widely different, and it is the amateur who nowadays most often plants self-sterile varieties quite away from any other variety flowering at the same season.

Much may be done by transferring pollen by means of a camel-hair brush or a rabbit's tail to counteract the error in planting. Indeed, leaving the question of self-sterility quite aside, artificial pollination is, especially in "chancy" weather, very desirable in such circumstances and may make all the difference between a good crop and an almost total failure.

Speaking generally, the blossoms which open first are the finest and most perfect and will, if pollinated, produce the finest fruits, and a special effort should be made to "set" these.

This question of self-sterility has not yet been entirely cleared up, but most of the well known cooking Plums are, as might be expected, self-fertile. Such are Victoria, Magnum Bonum, Pershore, Purple Egg, Czar, Monarch, Belle de Louvain, Giant Prune and Gisborne.

The choice Gage Plums are self-sterile, as are some not usually classed as Gages, but which are closely related, such as Coe's Golden Drop, Coe's Violet, Crimson Drop and, of course, Jefferson. The pollen of these four is said to be useless for fertilisation *inter se*, which is thought to be due to the fact that the other three are all sports from Golden Drop. Pond's Seedling is also self-sterile.

Frogmore Damson proves self-sterile and Farleigh Damson partially so, and it is well to ensure cross-pollination of Rivers' Early Prolific and Cox's Emperor.

Nearly all the best Cherries are quite self-sterile, except the Morello and the varieties Late Duke (not May Duke) and Flemish Red.

Of Apples the only important varieties which are really self-sterile are Cox's Orange Pippin, Lane's Prince Albert, Northern Greening, Gascoigne's Scarlet and Beauty of Bath; but it is well to ensure cross-pollination of Lady Sudeley, Worcester Pearmain and Bramley's Seedling. The last named, being an exceptionally robust grower, is seldom found in small gardens.

It was formerly thought that the notorious difficulty often found in setting Pear blossom was due to climatic conditions, but while the Pear blossom certainly is easily damaged by bad weather, there is no doubt that cross-pollination would in many instances effect a striking improvement in this regard.

AN INTERESTING SHOW AT THE ROYAL HORTICULTURAL SOCIETY'S HALL

A VERY interesting Show at Vincent Square on March 28 included something of everything seasonable in the floral line and everything was of very good quality. Although the Annual Daffodil Show is to be held a fortnight hence there were many good blooms on view. They were mostly of the large-flowered trumpet varieties and included quantities of richly coloured King Alfred, by Messrs. Carter and Co., and such as Alasnam, General Joffre, Princess Juliana and Mustapha in Messrs. Barr's fine exhibit. But here and in another instance the most interesting were unnamed seedlings.

Greenhouse Cyclamen were wonderfully good. Perfect plants with a great many flowers were shown by the St. George's Nursery Company, whose very best were Mrs. L. M. Graves, a brilliant crimson, and St. George, which has bright flowers and beautifully mottled leaves. Several baskets of the frilled Cyclamen were interesting and showy, but these, as well as many of the other present strains, have lost the graceful characteristic shape of the true Cyclamen which was present in Sweet Scented, shown by Messrs. Sutton and Sons with their excellent Cinerarias and Freesias. This Cyclamen is almost identical in appearance with the original *C. persicum*, and is deliciously fragrant.

From the flower-lover's point of view the best Freesias were the splendid pots of *F. Excelsior*, sent by F. C. Stoop, Esq., West Hall, Byfleet. These were exceedingly fragrant and may be termed a glorified *F. refracta alba* with a touch of primrose-yellow.

Among the various shrubs a large bush of *Rhododendron Ernest Gill*, from the Falmouth district, was pre-eminent. It is a glorious thing—large, perfect trusses of rich, glowing pink. These Himalayan hybrids, unfortunately, are not generally hardy, but they luxuriate in many favoured gardens along the western shores of Great Britain as well as in many parts of the South. Mr. Gill also had richly coloured blooms of *Rhododendron barbatum*, while Messrs. Cheal and Sons included the hardier *R. Jacksoni* in their collection of shrubs and alpinists. Some trusses of half-hardy *Rhododendrons* were shown by Mr. G. Reuthe, and among his uncommon shrubs were two small specimens of *Vaccinium Nummularia* and *Polygala rhodoptera*. His sprays of *Pieris japonica*, cut from thin woodland planting, had exceptionally white flowers.

Most glorious colour was provided by the *Azalea mollis*, shown by Messrs. R. and G. Cuthbert. The masses of bloom seem to vibrate with rich pink shades.

Chief among the many alpinists were the Saxifragas and these included *Saxifraga Russell Prichard*, a very good white of *Burscheriana* type; *S. Sundermanni*, *S. retusa*, a dainty little rosy purple; and *S. Stuartii*, with coloured, erect flower-stalks.

Forced Roses were especially beautiful on Mr. Hicks' stand and included the new *Madame Butterfly* with *Columbia* and *Premier*, two fragrant deep pink sorts. In Mr. Prince's exhibit there were masses of the old yellow *Banksian* and *Fortune's Yellow*.

A wonderful collection of *Dendrobiums* was included by Messrs. Sander in their gold medal exhibit of Orchids. Seldom have these decorative sorts been shown in such excellence. Among their rare Orchids was a plant of *Arachnanthe Cathcartii* St. Albans variety, which bears hooded, orange-lined flowers that have a curious swinging lip that sways on the slightest provocation.

Although not extensive, the fruit and vegetable exhibits were interesting and valuable. Sir Montagu Turner sent a collection of twenty-eight dishes of late-keeping Apples. Some of them were showing slight signs of shrivelling, but mostly they were firm and apparently crisp, while all were of ideal size and shape. The best sorts at this season seemed to be *Ribston Pippin*, *American Mother*, *Christmas Pearmain* and *Winter Ribston*. This excellent exhibit received a Hogg Memorial medal. The first, by the way, under the new rule that the Hogg medals are to be awarded solely to fruit exhibits and not to vegetables as well,



THE CRIMSON SEMI-SINGLE CLIMBING ROSE—H. C. CHANDLER.

as has been the case in the past. In future vegetable collections worthy of high honour will receive Knightian medals.

Seven baskets of *Doyenne du Comice* Pears, grown on the Rhodes Fruit Farm, South Africa, were on view. These were of very even shape though not yet ripe. The South African *Kelsey Plums* were probably the finest that have been seen in this country.

The first Cucumbers of the season at Vincent Square were on show in an exhibit by Messrs. Sutton and Sons, and this also included beautifully white *Broccoli Snow White*, one of the very best late sorts.

NEW AND RARE PLANTS.

Asparagus Lewisii.—In appearance this new decorative greenhouse variety suggests a cross

between *A. Sprengeri* and *A. plumosus*. The growths are long and graceful and the pale green branches are flattish. It might almost be said that this is an *Asparagus* trying to look like a climbing *Podocarpus*. It will no doubt be a useful plant for furnishing sprays of greenery for decorative uses. Award of merit to Messrs. J. Lewis and Son.

Eupatorium Rafillii.—This is a handsome greenhouse plant of uncommon appearance. The heart-shaped leaves are fully 5 ins. across, deep green, lustrous, and their sunken ribs give an attractive, crinkled effect. It belongs to the Natural Order Compositæ; the flower-heads are very numerous, spreading, and of reddish lilac colour, which is also prominent on the hairy stem and leaf stalks. A large group of splendidly grown plants of this species and *E. macrophyllum* was shown. The latter differs in having softer, paler leaves without the reddish-lilac colour on the stalks and in rather paler flowers. These *Eupatoriums* thrive best in rich soil and require abundant supplies of water during the growing season. Award of merit to Mr. A. Barclay Walker, Firfield, Weybridge.

Saxifraga Hybrida Gem.—There does not seem to be much to distinguish this variety from *S. Irvingii* other than that the flowers are a trifle paler. However, it is a very pretty little alpine plant and those on view were very free-flowering. Award of merit to Mr. Maurice Prichard.

Rose H. C. Chandler.—This semi-single rich crimson climber is very pleasing in form and if a good doer and free should be valuable for cut flower. It has excellent foliage. Shown by Mr. George Prince.

Scilla sibirica pallida.—As the name suggests, this is a pale variety of an old and valued spring flower. But it is rather too pale to be a welcome addition—the colour is a washed-out Cambridge

blue. Had it been several shades darker it would be much more attractive. Shown by Mr. C. G. van Tubergen.

Narcissus St. Bernard.—A large trumpet Daffodil. The perianth is of good yellow colour and the trumpet is of deeper tone with just a suggestion of orange. Its great attraction, however, is in the evenly fringed margin of the trumpet. Shown by Messrs. F. H. Chapman, Limited.

Freesia Apotheose.—A coloured *Freesia* of large size and good habit. The roundish blooms are fairly heavily flushed towards the edges with rosy purple. When seen in fair quantity, as was the case in Messrs. Sutton's exhibit, it is very attractive. Shown by Mr. C. G. van Tubergen.

Sophro-Lælio-Cattleya King George.—This multi-hybrid shows a great improvement in colour on its predecessors and is almost as bright and showy as some *Lælio-Cattleyas*. The sepals and

petals are of rosy-mauve colour with a golden shading. The rosy-purple lip has distinct lines running to the base. First-class certificate to Messrs. Flory and Black.

Odontoglossum Garnet.—A small plant bearing a spike of large, perfectly shaped flowers was shown.

bright rosy-mauve. Award of merit to Messrs. Sander and Son.

Apple John Standish.—During the autumn at several R.H.S. meetings, and at the Crystal Palace Empire Fruit Show this handsome Apple was shown in great quantity and thickly clustered

them; half-decayed leaves form a suitable drainage material. The compost when placed in the boxes should be made moderately firm, with a level surface and be watered about one hour before the seeds are sown. Do not immediately water the soil put on to cover the seeds. Sow the latter thinly, as any overcrowding would weaken the resultant seedlings.

CAULIFLOWERS AND CABBAGES.—Sow the seeds in boxes and cover them a quarter of an inch deep. Be very careful in regard to watering as the seedlings soon damp off. Transplant the latter when the first rough leaf has formed.

CELERY.—Frequently too many seeds are sown then the young seedlings get spoiled. Use a pot or pan for the Celery and a small addition of leaf-soil to the general compost. There must be more drainage material used too. Only put on a very thin layer of fine soil when covering the seeds; then place a square of glass on the seed vessel and a sheet of brown paper. If water is needed apply it by immersing the pot or pan to the rim. The first transplanting should take place when the seedlings are quite small. This sowing should constitute the maincrop one.

LETTUCES.—A splendid batch of young plants may be quickly raised in a frame. Here, again, sow thinly and transplant at an early stage of growth. Several small sowings at ten day intervals are better than one large sowing.

ONIONS AND LEEKS.—Young plants raised in heat should be transplanted in boxes or beds in the frame and gradually hardened prior to the final planting in their permanent quarters.

TOMATOES.—It is not safe to plant Tomatoes in the open air before the first week in June. But in the meantime the cultivator can bring on a nice lot of plants in his frame; they will be sturdy and not too tall. They may be grown in pots or boxes; I prefer pots. Use a small quantity of wood ashes and old mortar rubble in the compost and pot firmly.

VEGETABLE MARROWS AND CUCUMBERS.—The seeds of both must be sown in small pots. The compost should be light—half leaf-soil and half light loam. Use it in a medium state of moisture, and do not water from the top but immerse the pots to their rims in a vessel of water when more moisture is required. The same care must be taken when it is found necessary to repot these plants and as they are soon killed by frost cover the frame at night.

RADISHES AND MUSTARD AND CRESS may be quickly raised in a bed in a frame. Potatoes planted, with seeds of Radishes and Lettuce scattered thinly on the surface soil and raked in, will constitute three crops at one time in another frame.

OLD TIMER.

A NOVICE'S ROCK PLANT

WALLACE'S Saxifrage, a hybrid plant raised in Edinburgh a good many years ago, has established itself as a favourite flower with many cultivators of rock and border plants. It is one of the best of the whites among the "mossy" varieties, although it shares, in common with a considerable number of others, larger foliage than we feel justified in characterising by that term. However, it has beautiful leaves and, even when out of flower, a clump makes a handsome mound of green either in the rock garden or in the front of the border. The flowers, which are large for the section to which it belongs, are pure white, and a good plant with its wealth of bloom is a delightful sight. Saxifraga Wallacei is quite hardy and grows in most common soils, though light, gritty ones suit it best. It should not have too parched a position. A big plant looks remarkably well hanging from a crevice in the rockery or over a ledge.



SOMEWHAT IN THE WAY OF SAXIFRAGA IRVINGII, THE DELICATE PINK SAXIFRAGA × GEM.

The blooms are margined and tipped with clear white, but otherwise the petals are of rich reddish violet colour. The broad lip bears a large golden crest and is blotched in front with the petal colour. First-class certificate to Messrs. A. and J. McBean.

Dendrobium Perfection var. Gloria.—A particularly showy Dendrobium of *D. nobile* type. The sepals and petals are heavily flushed with

on branches to illustrate its heavy fruiting qualities. To this and its bright and attractive appearance must be added long keeping, for the bright red fruits were quite firm and of fresh appearance. Although the flavour is said by the experts to fall just short of first-rate, it is very pleasant eating, so that it appears to be a desirable variety. Award of merit to Messrs. Isaac House and Son.

RAISING EARLY VEGETABLES IN FRAMES

Many amateur gardeners use their frames for little else than preserving plants through the winter. Their utmost value is shown, however, at this season of the year.

UNDoubtedly the possessor of a garden frame has a considerable advantage over his neighbour who does not own one. A nice frame is an ornament to any garden, but as regards utility alone, a quite primitive frame is, practically, just as helpful.

The wooden frame, that may be moved at will from one position to another, is the most useful to the amateur cultivator, but one must not despise the fixed or permanent frame, whether it be made of turves, wood or bricks. Only in exceptional cases should the fixed frame be in any position other than one facing due south. For the bringing on of early crops in spring the south aspect is absolutely essential.

Seedlings and very young plants are dealt with in frames at this season of the year, and all such must be within a few inches of the glass, so as to keep them sturdy and strong. In two or three barrowloads of compost thousands of seedlings may be grown quite satisfactorily, while in a cold, clayey open border a large percentage of the best

of seeds may fail to germinate if sown very early. There is also this advantage that while the young plants are "coming on" in the frame, the cultivator is at liberty to deal with the soil in the garden, and thus bring it to a high state of cultivation and make it fit to receive the young plants in due course.

THE COMPOST.—Fibrous loam cut about six months ago—early last autumn—should form the body of the compost; to this must be added sweet leaf-soil and sufficient sand to render the whole porous. One peck of well rotted manure must be mixed with two bushels of the compost for the benefit of the young plants when they are first transplanted. No manure is needed in the soil for the seeds to be sown in. All the compost, when used, should be in a medium state of moisture. All seedlings and young plants may be grown in boxes, pots, pans or a bed in the frame. The average depth of the bed in the frame should be 6 ins. In boxes the soil should never be less than 3 ins. deep in addition to the drainage material. Boxes must have holes in

CORRESPONDENCE

A SELECTION OF SHRUBS.

IN common with the majority of people I find it necessary to study economy in my garden. In the old days it was mainly laid out for flower effects, but I am thinking of reducing the flower garden section and substituting shrubs. I should be much obliged if you could give me the names of say, four or five dozen of the leading species and their best varieties and some idea of their effect. The soil is chalk with a good deep soil above. I am quite aware that it is too late to put these in for the present season, but I should like to make plans as to what to do in the early autumn. A work on shrubs gives so enormous a number that it somewhat perplexes a modest man who is not an expert on the subject and whose room is limited—

it is just a selection of the best shrubs I am asking for.—H. E.

[The above topic seems to us to be of such interest to many readers on similar soils, that we invite those who have had experience of similar conditions to give their views.—ED.]

SAXIFRAGA OPPOSITIFOLIA AND CHIONODOXA.

I AM sending herewith two photographs. The first is of wild plants collected on the Welsh mountains a few years back and now established on a moraine in my rock garden. As will be seen, the Saxifragas are very much at home and flowering with an enthusiasm only equalled by that which the species displays in its native habitat.



A LITTLE COLONY OF THE GLORY OF THE SNOW—CHIONODOXA LUCILÆ.



A CORRESPONDENT'S MORAINE, SHOWING ROBUST TUFTS OF SAXIFRAGA OPPOSITIFOLIA.

For a time I endeavoured to grow these carmine blossoms in gritty loam, where they appeared in a somewhat desultory fashion, but since removal to the moraine the plants have spread so greatly as to endanger *Gentiana verna* and other choice tenants of the same bed of granite chippings. *Oppositifolia* is a Saxifrage of engaging habit. On some mornings its hue is changed to delicate pink beneath a film of hoarfrost or snow, but the blooms shine out again with undimmed brilliance as soon as the sun has melted the nightly crust. Moreover, it is not a small matter to have carmine flowers in really telling patches during the early days of March, and those borne upon British wildings. The *Chionodoxa* is another tiny flower which furnishes gallant colour out of doors when the year is but young. It possesses the desirable knack of multiplying itself almost indefinitely, but accomplishes that feat without becoming a nuisance to its neighbours. When the blooms have faded, the "grass" quickly dies down, and although the seedlings thrust up for a time like Lilliputian Onions, they too disappear and no more is seen of the "Glory of the Snow" until another March brings forth a fresh splash of bluest blue. The second photograph gives some idea of the freedom with which one of many small colonies of *Chionodoxa* is brightening a corner of my rock garden in its "off season."—R. H., *Stratford-on-Avon*.

A LITTLE SEEN ROCK PLANT.

I SHOULD like to warn the unsuspecting against *Calceolaria polyrhiza*, about which I see a note and pretty illustration in March 25 issue of THE GARDEN (p. 144). It is a fearful weed and runs about all over the place, producing in most soils an undue proportion of leaf to flower. It is perfectly hardy, but should only be planted where nothing better will grow.—M. F.

CALCEOLARIA POLYRHIZA may be little seen, but if it gets into ground it likes it runs a long way in a little time and it is quite possible you may wish that you had not seen it. I quite agree that the plant is both interesting and pretty, and it is quite hardy even in North-east Yorks. While not advising its exclusion from our gardens, I should impress on any contemplating procuring it that they do not place it in moraine, good sandy soil or peaty boggy ground if they have any plants they highly value anywhere near. Personally, I have spent many hours in removing it from positions where it had become a nuisance, and the only way to get it out is to take plants, soil and stones out from a considerable area.—T. A. L.

THE CHINKERICHEES.

IN the account of the fortnightly meeting of the R.H.S., appearing in THE GARDEN for January 28, there is, I think, a slight inaccuracy as regards *Ornithogalum lacteum*. It is stated that "there were some vases of *Ornithogalum lacteum* which were given their Zulu name of Chinkerichee." Chinkerichee is not a Zulu name for them, but a Dutch one and was, I believe, originally *tintermtjes*. Also the variety of *Ornithogalum* that is known out here as Chinkerichee is *O. thyrsoides*, not *lacteum*, as you state. Other names for the same plant are *Star of Bethlehem* and *violdtje*. Both the leaves and flowers of *O. thyrsoides* are poisonous to stock. There is a good description of the plant in Dr. Marloth's recently published "Flora of South Africa," Vol. iv, page 100.—J. ERIC STEWARD, *Empangeni, Zululand*.

NARCISSUS CERVANTES.

A NOTICE of this Daffodil appeared in THE GARDEN about Daffodil-time last year. I can only recall two remarks the writer made about it; the one was that it resembled Princeps somewhat, the other was that it was unusually floriferous. I had the pleasure of seeing a batch of fifty bulbs of it in bloom on January 13, which speaks of its early flowering qualities, as it was grown in a very moderate temperature. It certainly resembles Princeps, but it is hardly so large, either as regards height, breadth of foliage or size of flower. It is a clearer yellow than Princeps, the trumpet is more finely frilled, and altogether it is more refined than the old favourite. With regard to its free-flowering qualities, each bulb produced three or four blooms, but only one or two produced the promised five. The price from an Edinburgh firm was 22s. per hundred. When it comes down to half that price this will prove an acquisition for early forcing in quantity or for naturalising.—

CALEDONIA.

[There is no doubt that these smaller Daffodils are most useful for naturalising where space is strictly limited.—Ed.]

DROUGHT AND FERTILITY, AND OTHER MATTERS.

THE month of March on the Riviera has been genial and fine as a whole, though, of course, we have felt something of the cold fit we hear of elsewhere. The beauty of the spring flowers this year after the severe drought is more amazing than ever and proves once more how the aeration of the soil caused by long heat and drought acts as a fertiliser and stimulant when rain has fallen at last! The bloom on Waterer's Cherry, on the Pyrus (Malus) Scheideckeri, on Xanthoxeras sorbifolia, the Double Peaches, the Tenerife Broom, the great white Buddleia asiatica is more beautiful and more abundant than ever. The flowering Aloes, Salm-Dyckiana, pseudo-ferox and others are twice as gorgeous as usual, and the wild Anemones (Hortensis) and Soleil or Annulata carpet the bottom of the valley with a blaze of colour that seemed impossible two months ago. Judging by the growth of the Roses also, the long drought and rest must have acted as a stimulant, and the bloom next month must be extra fine. Lithospermum rosamarinifolium is more abundantly blue than I ever saw it, and Anchusa myosotidiflora surprises and enchants those who seek for the blue sky repeated on the ground. What a delightful plant it is for the semi-wild garden! Perhaps a big bush of Citrus trifoliata, bristling with thorns and great white flowers, next to a tall post which is draped with Jasminum primulinum with sprays of flowers that hang in yard-long festoons, is one of the most admired of spring delights. There is a pretty new hybrid Cineraria between C. aurita and the common annual greenhouse Cineraria that demands notice. It is dwarf and elegant in growth and foliage, and the colours of the flowers varied so that if it partakes of the semi-wooded and perennial qualities of C. aurita it will be a real gem to gardeners in England as well as on this coast. The pale yellow form of Iris olbiensis is particularly good just now; it is earlier than the germanica forms that wait till the Banksian Roses and the Tree Paeonies are fully out; it is particularly pretty in combination with the peach-pink Tulipa saxatilis that is so free-flowering and so happy on this coast. There was a flower show at Nice the other day, but the flowers in the windows of the best florists were much finer than those shown! I do not know where the blame lies, but such a fiasco as this show proved to be should not be repeated. To those who know the glories

of a London or a Paris show this travesty of all that is interesting and beautiful should not occur "on this coast."—E. H. WOODALL.

GALANTHUS IKARIE.

THE following interesting observations on this Snowdrop are taken from a letter sent by Mr. Henry Elwes to Sir Frederick Moore: "I read your wife's note on Snowdrops in THE GARDEN of March 18, and it set me to look up Galanthus Ikarie (of Baker), about which I have

long had doubts. I now find it is probably identical with G. græcus (orph. in litt), discovered by him in Chirs on a mountain of about the same height (1,000 metres) as Nikaria, which is only thirty miles north of it, and this probably accounts for its hardiness in comparison with other Greek Snowdrops, which all die out with me. Bonner says that G. græcus (which he first described) is intermediate between Elwesii and nivalis; and as the characters on which Baker relies are very variable, I had always doubted the specific position of G. Ikarie."—W. PHYLIS MOORE, Glasnevin.

THE TREATMENT OF SEEDLING TOMATOES

Insufficient attention is often paid to the Tomato. If the best results are to be obtained, considerable care must be taken with their cultivation, especially in the seedling stages.

SUPPOSING the seeds to have been sown fairly early, the plants should now be ready for potting up into zin. pots. The very early batches will, of course, before now be good plants in "sixties." We will assume, then, that the seeds have been sown thinly and that the resultant plantlets have been allowed abundance of light and a sufficiency of heat, and that they have, at any rate, reached the "brairding" stage—that is, they are now forming their first true leaves. Their subsequent culture up to the time that the first trusses show is as follows:

Brairding is with all seedlings a time of trial, and special care must be taken of the plants until it is safely through. They must never, of course, be allowed to become dust dry, nor, on the other hand, must they ever be watered until water is really required. The water given must always be as warm as, or preferably a few degrees warmer than, the temperature of the house in which they are growing, and it should, if any way this is possible, be soft. Surprisingly soon after brairding has taken place both leaves and roots will have need of more room if the plants are to grow as sturdily and healthily as they should. They should not be allowed in the least to draw one another, but should be potted up singly into zin. pots. The compost will be similar in character to that recommended for the seed bed, but, if broken finely, it need not be riddled, as the roots have not again to be separated, and the rougher fibrous portions can be used for the bottoms of the pots. The compost mixed, it should be taken into the house where the plants are growing a few days before it will be required, as should the necessary number of pots, and left there. If in a heap, the compost should be turned a few times, so that at potting time it may approximate to the temperature of the house. This is very important. It should be unnecessary to state that at all stages of growth, but particularly as long as the plants will have to be transplanted, the pots should be scrupulously clean, more especially inside, and quite dry at potting time. Pots all ready and coke-dust for drainage, and the nicely warmed compost placed to hand; make sure before commencing operations that the soil in the seedling boxes is not too dry for the rootlets to come apart easily. To prevent such a *contretemps* it is better to water them a few hours beforehand, even though they seem fairly moist already. Now lifting the box (or pan) of seedlings at an angle of 45° to the horizontal, tap it fairly sharply (not too sharply or disaster may ensue!) on the staging, when, if the blow was sharp enough, a crack wide enough for the fingers will be opened at the end of the box. With the aid of the fingers, or of the fingers

and a label inserted at the side of the box, a chunk of the little plants will come away. This little clump of plants should be taken in both hands and gently drawn, not forced, apart, the two clumps so formed being redivided until the plants are singled. On top of the small coke in the bottom of the pots place an inch or so of rough compost, then a sprinkling of the fine soil. Next put in the little plant, working the fine compost to it, but not ramming too hard nor tightening too much at the collar, as if the plant be bruised there it will die. A good deal of the tightening up is done by tapping the pot rather gently on the barrow, staging or portable potting bench. The absolute novice will find that to do it properly repotting (including the singling) is rather a tiresome job, but *experientia docet*, and it is surprising how many plants a skilled man will pot up in an hour, taking all the precaution mentioned. Though the days are longer now and light is now quite good, it is still very necessary to keep the plants as near the roof glass as possible. Glass-houses vary greatly in construction, but with a little contrivance this can always be managed. In many cases a false stage can be erected with boards and flower-pots nearer to the glass, or the pots may be packed in seed-trays and stood on a shelf.

Watering must at first be done carefully. It will not do to water the whole batch at once, willy-nilly, but as the pots get fairly full of root a good deal will be needed, and on bright days they had better all have a good soaking in the morning and careful inspection later in the day. As soon as the pots are full of root and before the plants show the smallest symptoms of getting stunted they should be retransplanted. If cultivation has been properly managed to date, the young plants should be from 7ins. to 10ins. high, according to variety, almost as like as peas in a pod, nearly or quite as wide as high, and they should still retain their seed leaves. That is not to say that plants need be rejected or thrown away because they have lost these, only that something has not been just right in the cultivation if they have. At this time the first truss of bloom should be fairly visible near the growing point of the plant. The seedling plants have at this time reached the parting of the ways, their disposal now depending on the method of cultivation finally to be adopted. If they are to be planted in the floor of a greenhouse, which is, where circumstances permit, the most economical and productive method, it will be found easiest to plant them direct in their permanent quarters—easiest and, where the space is free and the house can be adequately heated, best. At this stage of their development we will for the present leave them.

THE GREAT WHITE TREE POPPIES

THE present is an excellent season to plant out those beautiful Californian Poppies, *Romneya Coulteri* and *R. trichocalyx*, which are, especially until established, not over hardy. There will no doubt be a large demand for plants this season owing to the extraordinarily fine display given by both species last year. The protection of a south or south-west wall is generally advised for these shrubs, if shrubs they are, but if the soil is well drained they succeed quite well in all but the bleakest localities, in the open border so that the crowns be covered in winter with a few inches of fine ashes. The difference in appearance between *R. Coulteri* and *R. trichocalyx* is very slight, consisting almost entirely in the presence of bristly hairs on the calyx of *R. trichocalyx*. The latter species is, according to Bean's "Trees and Shrubs Hardy in the British Isles," harder than the better

propagates *Gypsophila paniculata* or *Anchusa italica*, taking care to place the end of the root which was nearest to the crown of the plant to the top. July or August is probably the best time to carry out this work, but it may be done even in winter.

Plants of *Romneya* from the open ground are useless for transplanting though, as shown, valuable for propagation. A strong plant in a 6in. pot is well worth the extra money always charged for older and larger specimens, as it has every opportunity of getting well established the first season. R. G.

PILLAR AND ROOF PLANTS

Some greenhouses and conservatories are unduly darkened by climbing plants, while others are left, year after year, quite bare. There is a happy medium: if this were more often sought out there would be less need for the artificial shading of structures in summer time.

A JUDICIOUS selection of climbers should be made to suit greenhouses of various sizes. The large-leaved, strong-growing *Habrothamnus elegans*, for example, is quite unsuitable for a small house, as it would unduly shade the plants underneath. Some of the *Jasminums*, again, would not afford sufficient shade in a large structure, and so on. There are a few species, notably *Bougainvillea glabra* and *Plumbago capensis*, that are suitable for practically all kinds of houses, as they may be pruned and restricted to really small spaces.

Where there is a position suitable for a border, even a narrow one, the plants may be planted out permanently; but there is not this convenience in many structures, so that use must be made of large flower-pots and boxes. At this season of the year the climbers may be purchased in pots and transferred forthwith to the border or the box.

In every case good drainage is essential, and this is ensured by using broken bricks, covered with whole turves, in the borders and nice clean crocks in the pots and boxes prior to putting in the compost.

The plants here enumerated are dealt with in detail in *THE GARDEN* at different seasons, so that it is unnecessary for me to give seasonal hints in this brief article. The main thing now is to procure the plants and

plant them. When judiciously employed, climbing and pillar plants have the effect of adding size to the structure and giving it a sub-tropical appearance. Among the better kinds, one must first name *Bougainvillea glabra*. It should be trained similarly to the Grape vine; the side shoots are cut back severely in the winter; the new shoots grow rapidly, and, if some of them are allowed to depend gracefully from the roof, the general effect is very beautiful when the flowers are opening freely. *Plumbago capensis* and the white variety should be treated in a similar way.

Clematis indivisa lobata has dark green, lovely foliage and white flowers. The shoots grow rapidly, are suitable for training to wires over the path, and, when the flowers have faded, the leaves form a welcome shade. The plant is easily grown in good loam and rotted manure.

Cobæa scandens and *C. scandens variegata* are among the quickest growing climbers we have for the greenhouse. A mixture of loam, leaf-soil and sand suits these plants, which should be planted in large pots for small structures. They look graceful trained up a pillar and then under the roof-glass, not too stiffly, especially in a large house; the loose ends of shoots should depend gracefully from the roof wires.

Heliotropes, *Fuchsias* and Ivy-leaved *Pelargoniums* are suitable for covering pillars, and their beauty is enhanced if the leading branches are allowed to cover, in addition, a few square feet of the roof.

As already stated, *Bignonias* and *Habrothamnus* are only suitable for large greenhouses and conservatories. The plants should be grown in good loam, but not in a rich one, to which organic manure has been added. During the summer time the *Bignonia* should be freely syringed, except when it is in bloom. The syringing is necessary, so on this account the plant should be grown where the syringing will not damage flowering plants underneath. The *Habrothamnus* must not be syringed. The plant may be controlled in growth by pinching the young shoots and by judicious pruning in spring.

On a fairly high roof *Taesonias Van-Volkemii* looks charming, as then the full beauty of the depending flowers on their long, slender stems can be seen. Use a similar compost to that suitable for *Clematises*—not too light nor too heavy.

The *Sollyas* are lovely plants for furnishing pillars; the flowers of *S. heterophylla* and *S. linearis* are blue and very attractive. When not in bloom syringe the plants in the summer, and maintain the compost of loam, peat and sand in a moist condition; in the winter keep the border rather dry. *Kennedias* should be similarly treated; *K. monophylla*, purple, and *K. Marryattæ*, scarlet, are charming varieties.

In greenhouses with northern, north-western or north-eastern aspects roof plants must not be employed too liberally, especially if flowering plants are to be grown beneath; but *Ferns* and *Palms* always thrive well in such structures.

FORTHCOMING EVENTS.

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

April 11.—Royal Horticultural Society's Daffodil Show (two days). Informal discussion on "Plants in Flower" at 5 p.m. on the first day.

April 12.—East Anglian Horticultural Society's Meeting. Sheffield Chrysanthemum Society's Meeting.



THE EVER-GRACEFUL ROMNEYA COULTERI.

known species, but the writer cannot confirm this from his own experience, though it would seem to be rather freer to flower in unfavourable seasons.

Once established, both species cover a great deal of ground, spreading quite rapidly underground, and it is possible to strike the young outlying shoots in a little heat when they are a few inches high, giving them similar treatment to that usually afforded to the herbaceous *Phloxes*. They are, however, much more difficult to root. The most effective method of propagation is to lift an old plant and cut up the thick fleshy roots into 2in. lengths and plunge them to the tops in sharp sand, just as one

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Cardoons.—Seeds should be sown now, either in trenches of good soil, prepared in the manner as for Celery, or in pots in a frame, and the seedlings transplanted later. Place several seeds in a pot, eventually thinning the seedlings and leaving one in each pot. If sown directly in the trenches place several seeds at a distance of 12 ins. or 14 ins. apart and thin out, leaving the strongest plant. The Cardoon is a plant that appreciates an open position and good, rich soil and should be well supplied with water.

Salsafy.—This Parsnip-like root can be sown where it is to mature in drills a foot or 15 ins. apart, and the seedlings should be thinned out, leaving them 6 ins. to 8 ins. apart.

Scorzonera.—Seeds of this vegetable may be sown now. The cultural treatment as given above for Salsafy will suit this plant.

Seed-sowing.—If not already sown the main-crop of Carrots should now be got in. Carrots delight in a light, sandy loam, in which medium the long, tapering roots easily penetrate. On heavy land stump-rooted varieties should be used for preference. Draw the drills a foot to 15 ins. apart. Sow, as required, small beds of Radishes, Mustard and Cress on a warm border, and place handlights over them, if possible.

General Work.—Continue to plant out Cauliflowers, etc., which have been raised under glass and pricked out and grown on in boxes in frames. Lettuce should also be planted in frames and on a warm border outside in quantity, so as to keep up a supply. Seeds of this useful salad may be sown thinly in drills on the top of Celery trenches or between the rows of young Strawberry plants which have not made much growth. If inconvenient to do this they may be sown somewhat thickly in drills and transplanted in good time.

Early Celery.—See that the young plants that have been pricked out in boxes or on a mild hot-bed in a frame are carefully watered and ventilated to encourage the development of strong, sturdy plants. The seeds to form the main batch should be sown at once, and a most suitable place for this sowing would be in a frame having a few inches of light, rich soil in it on a declining hot-bed.

The Flower Garden.

Hardy Ferns.—The removal of all dead fronds and any accumulation of weeds or rubbish among these should now be seen to, taking care while carrying out the work that the young unfolding leaves do not get damaged. After lightly forking over the ground among the plants, apply a top-dressing of decayed leaf-soil.

Border Violets.—Where a border can be spared for these, either in the flower garden or kitchen garden, the flowers come in most useful as a follow-on to those grown in frames. Should an increase of stock be necessary, this can quickly be accomplished now by taking off the young growths as cuttings and inserting them in light, sandy soil in cold frames. Keep the frames somewhat close and shady until roots are formed, then gradually harden and disperse with the lights until the planting-out can be done.

The Hardy Fruit Garden.

Protecting Fruit Blossom.—By the aid of tiffany blinds or a double thickness of netting much may be done to try to save the blossom on early fruit trees growing against walls and buildings, but upon trees in the open it becomes a difficult matter to cope with. Where it is essential to protect the flowers upon bush or pyramid trees in the open, a few stout stakes of suitable height should be driven in and thin tiffany or netting tied to them. Even if only placed on the north and east sides of the tree, it is surprising what protection this affords.

Fruit Under Glass.

Melons.—Give regular attention to the stopping and tying of these plants in the early house. The side shoots should be pinched at the first or second leaf beyond a fruit where formed. Shoots not showing for fruit should be pinched at the first leaf, which generally encourages the laterals to carry fruit. The number of fruits for each plant to carry may be governed to some extent by the requirements, but, generally, for early work two or three will be found sufficient. Where possible, endeavour to fertilise a sufficient number of blossoms the same morning, for by doing this

the young fruits will grow away evenly together. It will be found beneficial to keep a somewhat drier atmosphere during the flowering period, but immediately that is over an abundance of moisture, atmospherically as well as at the roots, should be maintained. Should any top-dressing of the border be necessary, it should be warmed before applying and should consist of good fibrous loam and old Mushroom bed; this should be placed evenly and firmly over the bed. During the growing stages the utmost use should always be made of sun-heat by the early closing of the house.

H. TURNER

(Gardener to the Duke of Northumberland),
Albany Park Gardens Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Salsafy.—Sow seed of this serviceable winter vegetable now. Salsafy revels in light, loamy soil which has not been recently manured. Freshly manured land tends towards forked and scraggy roots. The site of the previous season's Celery trenches will suit admirably. Sow in shallow drills 18 ins. apart, and thin out the plants to 6 ins. apart in the row.

Peas.—A good sowing of marrowfat varieties should now be made. Suitable sorts are Duke of Albany, Peerless Marrowfat and Telephone. Stake earlier sowings immediately they show through the ground, as this affords the plants a certain amount of shelter should cold weather set in.

Cabbages.—Plant out batches raised from early sowings to succeed the autumn-planted lot. Small growing sorts, such as Ellam's Early and Flower of Spring, may be planted fairly close, 15 ins. either way being ample space.

Transplanting Autumn-sown Onions.—In districts where autumn-sown Onions can be successfully grown they should now be transplanted, allowing 12 ins. between the rows and 8 ins. between the plants. This crop proves valuable for early use and, when judiciously harvested, may be kept in usable condition for a good part of the winter.

Tomatoes.—Early sowings will now be ready for transferring to their fruiting quarters. If planting in borders, allow ample space for the development of the plants. Overcrowding among Tomatoes, as with most plants, is one of the chief causes of failure. Plant deeply and firmly in a compost of mellow loam with a liberal sprinkling of wood-ash added. Refrain from using manure until the first and second trusses are well set, and always aim to have firm and sturdy growth.

Cucumbers.—Maintain a warm, humid atmosphere in pits where the plants are in bearing, and assist with liquid manure from the byre. Thin out all superfluous growths, and stop the leading vines when the allotted space has been covered. Sow again for successional batches and to provide plants for planting out in frames about the middle of May. Sow the seed singly in 3 in. pots, and germinate in a warm pit.

General Work.—Clear off all spent winter vegetables, and hit the remainder of the Leek crop, heeling them in on a shady border. Afterwards manure and dig the ground in preparation for other crops. Prick out into frames seedlings from early sowings of Cabbage and Cauliflowers. These will provide well grown plants for mid-season crops. Brussels Sprouts should also be treated in like manner. Onions growing in boxes for planting out towards the end of the month should be gradually hardened off by allowing ample ventilation on the frames during fine weather. Keep protecting material at hand, as sharp and sudden frosts are common in the North during April.

Fruit Under Glass.

Vines.—In the earliest houses thinning will now require attention, and this important work should be pushed forward as speedily as possible. When thinning, bear in mind that the large berried sorts will naturally require more room than medium-sized sorts. Allow for enough berries being left so that when they swell to their full size the bunch shall be firm enough to hold itself in shape without being overcrowded. Give the Vine border a good watering with liquid manure a few days after thinning is completed.

The Hardy Fruit Garden.

Grafting Fruit Trees.—Where this work is to be done no time should be lost in making the

necessary preparations, as it is only now, when the sap commences to rise, that a satisfactory and speedy union between stock and scion may be made. Trees that were headed back during the winter pruning should be cut back a few inches further now that the sap is rising, so that the grafts may be fixed in sound bark. The grafts should be from 6 ins. to 8 ins. long, leaving three or four buds on the upper portion. In private gardens wedge grafting is favoured for the larger trees and whip grafting for young stock. See that the bark of the scion and stock fits closely, and secure with broad raffia, thoroughly smearing over with grafting wax.

The Flower Garden.

Nepeta Mussini.—Apart from the delightful soft grey of its foliage and charming lavender flower spikes, its lengthy season of flowering adds greatly to the popularity of this adaptable perennial. Where it is desirable to increase the stock, the plants should now be lifted and divided into small portions, placing them right away into their new flowering quarters. They will grow and flower freely in shady parts of the garden where other plants fail.

Pricking Out Seedlings.—This work will now occupy a good deal of time, but it must be carried through before the plants become drawn and weakly. A wise precaution is to have the necessary boxes or frames filled with a suitable compost, all ready for the various seedlings immediately they are of a suitable size to prick out.

Violas.—Plant out these at the first opportunity, as they do best when well established before the hot weather sets in. Violas enjoy a cool root-run and flower profusely if the ground has been enriched with well decayed manure.

JAMES MCGRAN

(Gardener to Sir Henry H. Holdsworth, Bart.),
Coodham, Kilmarnock.

CONSERVATORY AND GREENHOUSE.

Rhododendrons.—There are many fine greenhouse Rhododendrons which at one time were very popular, but too seldom seen at the present day. This is rather surprising, as all the Edgeworthii hybrids are very fragrant. Grown in pots they are rather straggling in habit, unless carefully trained and pruned. They are, however, excellent for planting out in a cool conservatory, where they should be placed in shallow borders. Plant in a mixture of sandy loam and peat, and the plants will soon make fine large specimens. Most of these plants are easily propagated by means of cuttings, using young wood that is just firm enough to prevent damping. The cuttings may be rooted under quite cool conditions, but if it is possible to place them in a case with slight bottom-heat they root much more quickly. This mode of propagation applies to all the greenhouse Rhododendrons or Azaleas. Some of the best species and varieties are R. Edgeworthii, formosum (of which there are several varieties, the variety Gibsonii being commonly grown), Lady Alice Fitzwilliam, fragrantissimum, sesterianum, Forsterianum, Countess of Haddington and Veitchii. All these have been popular for many years. The many beautiful Javanese Rhododendrons, in a large variety of colours, are easily propagated by means of cuttings, and where a collector is grown, flowers may be had more or less all the year round. If they have a fault it is their rather straggling habit, but this can to a great extent be corrected by judicious tying and pruning. They are generally supposed to require a fairly high temperature, but I find they do quite well planted out in an ordinary conservatory.

Lilium sulphureum.—This beautiful and stately Lily only succeeds outdoors in the south-west. Planted out in a bed of good soil, along with shrubs, in a cool conservatory I have known it live for many years, and, when growing strongly, the stems may attain a height of anything from 6 ft. to 8 ft. Many fine Liliums that are uncertain outdoors should be tried indoors, planted out in a cool house, preferably among beds of shrubs, as the latter give the needful shade at the root; also the roots of the shrubs help to keep the soil in good mechanical condition. Lilium nepalense, which is not generally a success outdoors, should be grown under the above conditions. Liliums grown in pots and plunged in ashes or leaf-soil should, as they show signs of growth, be removed from the plunging material and stood in cold frames or in a cool house; or they may be left outdoors, plunged in ashes at the foot of a sheltered wall. All stem-rooting Liliums should be top-dressed as they require it.

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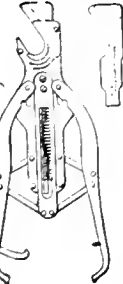
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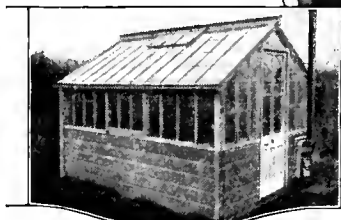
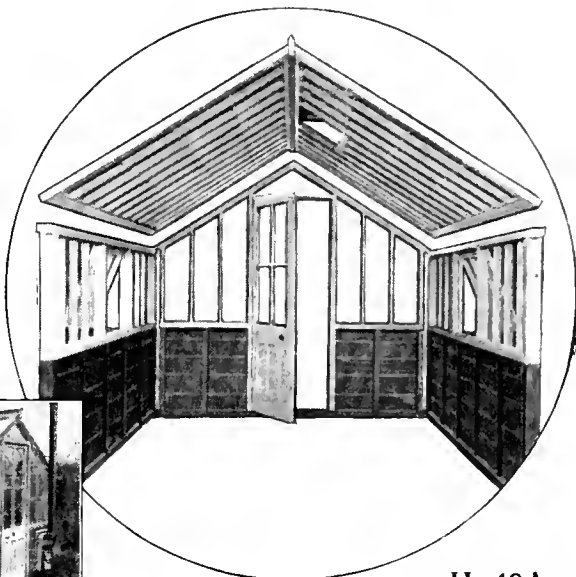
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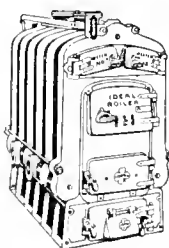
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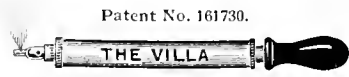
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Rudbeckia speciosa, 3, 1/6. Saponaria, pink rockery, 6, 1/6. Scabious, Sweet, 12, 1/9. Scabious caucasica, large hairy, 1 year plants, 3, 1/6. Silene compacta, pink, 15, 1/6. Stachys (Lamb's Wool), 6, 1/4. Star of Bethlehem, 6, 1/6. Statice (Sea Lavender), 3, 1/6. Sweet Rocket, 12, 1/6. Sweet William, double and single mixed, lovely colours, 12, 1/6. Sweet William, lovely scarlet, pink, and Crimson Beauty, 6, 1/4. Thistle Queen of Scots, 3, 1/6. Thalictrum (hardy Maidenhair), 4, 1/6. Tritoma (Red-hot Poker), 3, 1/6. Tussilago (hardy winter Heliotrope), 3, 1/6. Verbascum, tall, 6, 1/6. Valerian, crimson, 6, 1/6. Veronica, blue, 4, 1/4. Viola, separate colours, for bedding, and good mixed, 12, 1/6. Viola cornuta, mauve, purple, blue and white, Queen, masses of bloom for rockery, etc., 12, 1/9. Sunflowers, new red, 3, 1/6. Aster, Michalinas Daisy, good named sorts, 3, 1/6. Achillea, very bright Crimson Queen, 3, 1/6. Antirrhinums, strong autumn sown (not transplanted), 12, 1/6. Centaurea dealbata, lovely large fringed pink flowers, pretty silvery foliage, 3, 1/6. Chinese Pinks, very showy, 6, 1/6. Campanula maerantha, tall, large mauve blooms, 3, 1/6. Chelone barbata, coral red lobster flower, 3, 1/6. Crucianella, lovely for rockery, dense heads of pink bloom, 6, 1/6. Dianthus, rock, dwarf, lovely colours for rockery, 6, 1/6. Hypericum (St. John's Wort or Rose of Sharon), large yellow blooms, evergreen glossy foliage, 4, 1/6. Incarvillea Delavayi grandiflora, beautiful large Gloxinia-like blooms, handsome foliage, 3, 1/6. Inula glandulosa, large golden yellow flowers, bold and handsome, 3, 1/6. Lavender bushes, fragrant old English, 3, 1/6. Japanese Pinks, very pretty colours, 6, 1/4. Pyrethrum Queen Mary, large double rose pink, 2, 1/4. Oriental Poppies, very large salmon blooms, large plants, 2, 1/6. Shirley Poppies, beautiful art shades, 6, 1/4. Paney Coquette de Poisey, beautiful pale mauve, for bedding, 12, 1/10. The following Primulas are quite hardy, thrive best in damp situations, and do well in pots: Primula japonica, 4, 1/6. P. cortusoides, bright rosy purple, 4, 1/6. P. Bullayana, beautiful shades, 3, 1/6. P. pulverulenta, rich colours, 4, 1/6. P. denticulata cashmiriana, large heads, light purple, 3, 1/6. Rudbeckia Golden Ball, double, 3, 1/6. Perennial Sunflower, Miss Mellish, etc., 6, 1/6. Saxifraga, mossy, white, pink, crimson, 4, 1/4. Rock Roses, trails of lovely coloured flowers, rockery gem, 6, 1/9. Cheiranthus, Siberian Wallflower, masses of bloom all summer, 20, 1/6.

Strong transplanted plants for cool houses: Agapanthus, large blue African Lily, year old plants, 3, 1/4. Agathaea (blue Marguerite), 4, 1/4. Asparagus Fern, erect or trailing, 4, 1/4. Begonias, scarlet, crimson or Salmon Queen, evergreen, perpetual flowering, 6, 1/6. Auriculae, grand large flowering, show, 4, 1/6. Cannas, Crozy's splendid hybrids, large 2 year old, 3, 1/6; 1 year, 4, 1/4. Cinerarias, exhibition and stellata, 6, 1/6. Eucalyptus, 4, 1/4. Francoa (Bridal Wreath), 6, 1/6. Heliotrope, very large heads, fragrant bloom, 4, 1/4. Lobelia cardinalis Queen Victoria, 4, 1/4. Nicotiana, white or crimson Tobacco, 4, 1/4. Primula nialacoides (rosy-lilac), 6, 1/6. Primula obconica, new, giant, lovely colours, 4, 1/4. Rehmannia, pink trumpet, 3, 1/6. Salvia, Scarlet Zurich, 4, 1/4. Salvia, scarlet cocinea, 6, 1/4. Saxifraga Mother of Thousands, trailing, 4, 1/4. Streptocarpus, lovely Cape Primrose, large blooms, lovely colours, 4, 1/4. Aralia (Fig Palm), 2, 1/4. Celeia critica, pretty spikes of yellow and mauve flowers, 4, 1/4. Cyclamen, choice new sorts, 3, 1/9. Fuchsias, choice varieties, 3, 1/6. Marguerites, large yellow and Covent Garden White, 4, 1/4. Smilax, trailing, 3, 1/4. Cordyline Dracena indivisa Veitchii, handsome hardy palm, strong 3 year old, about 9ins., 2, 1/6. Schizanthus, butterfly flower, lovely new large flowering hybrids, 6, 1, 4. Tomatoes, strong, transplanted, best sorts, 6, 1/6. Hardy Climbers. Ampelopsis Viticilla, self-clinging Virginia creeper, large roots, several trails, 2/6 each. Clematis vitalba (Traveller's Joy), rapid grower, large roots, 2/- each. Calystegia, double pink, Morning Glory, rapid climber, 3 roots, 1/6. Tropaeolum speciosum, scarlet, 2, 1/6; Aplos tuberosus rooted Wistaria (not sinensis), 2, 1/4. Paeonie Flower, hardy, blue and white, 2, 1/6. Peas, everlasting, white, red, pink, mixed, large roots, 3, 1/6. Eecromocarpus, trusses orange flowers, 2, 1/4. Sweet Pea plants, new, large flowering, waved, etc., lovely colours, 20, 1/6.

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Primulas.—Where an early batch of *P. sinensis* is desired, a pinch of seed may be sown at this time. The old double white *Primula*, which is so useful for making up wreaths, etc., must be propagated by means of cuttings, which may be rooted in a warm case at this time; but the usual method is carefully to trim off a lot of the bottom leaves, and then mound up the stems with a mixture of leaf-soil, sand and sphagnum moss. Fresh roots soon push out into this, when the rooted shoots may be cut off and put into suitable sized pots, standing them in a close case for a few days until they get a hold at the root.

Cinerarias.—Although too early for the main sowing, a pinch of seed of both the star and florists' type may be sown at this time where early batches are required. These plants enjoy cool and moist conditions during all stages of their cultivation.

Humea elegans.—Where this beautiful and graceful plant is grown it should now be ready for transferring into its flowering pots, which for well grown specimens should be 6ins. or 7ins. in size; and it is usually at this stage that trouble commences, for this plant is by no means easy to grow well. In my experience it usually gives little trouble in its younger stages if it is grown quite cool and carefully watered, whereas in their final stages they require very careful handling, especially as regards watering. They are very impatient of fumigation, and a sharp look-out should be kept for green fly, which is best removed with a soft brush as soon as it appears. I do not know whether it is generally known that some few individuals suffer from a rash or eczema when banding this plant.

Pelargoniums of the Zonal type rooted last autumn and intended for summer flowering in the conservatory should now be ready for their flowering pots, which may be the 6in. or 7in. size. The plants should be potted fairly firm, and afterwards stood in a position where they can get plenty of light and air. Plants intended for autumn and winter flowering may still be propagated, while earlier rooted batches should be potted on as they require it. When in their flowering pots they should be stood outdoors in a sunny position during the summer months. In the immediate neighbourhood of London it is useless to grow these plants for winter flowering, as one night's fog will ruin the lot.

Royal Botanic Gardens, Kew. J. COURTS.

THE LITTLE GARDEN

Its Value and its Possibilities.

TO a thirsty man a few cups of water are better than an ocean which he can swim in but cannot drink. The widespread love of flowers—would that it were universal and more intense!—is better satisfied by the purity and freshness of a few choice blooms than by an ocean of extensive planting. The former meet a necessity; the latter provides for enjoyment. Yet the ocean has its value. Without it the winds which travel to the four corners of the earth would everywhere pass over a desert. The winds of the gardening world blow over the ocean of extensive culture and gather up its essence, bearing it to distant regions to feed the springs which bring refreshment and beauty to many an otherwise barren spot.

These springs are the little gardens. Though measured in rods they are in no way to be despised in comparison with those which are measured in acres. Nature is infinite, and size is nothing in her presence. The more one is in sympathy with the spirit of Nature, which is the spirit of true gardening, the more evident becomes the potential value of the little garden.

It is a matter of common observation that the greatest specialists among us are the greatest enthusiasts. The treasures which gardening holds are scattered widely, but also buried deeply so that the pearl diver who confines his attention to one spot may easily reap as rich a reward as the explorer who sails round the world in search of variety.

A garden makes its strongest appeal when spring flowers are first coming into evidence. This is partly because flowers are scarce at this time so that the few which do appear stir a deeper interest than their actual numbers would seem to merit. The attention they draw is concentrated and, therefore, intense, and is assisted by the more cheerless winter background against which they appear.

Not alone by winter, however, is a dull background provided. One has only to notice the condition of thousands of the enclosures attached to the everyday dwellings owned or tenanted by "the men in the street" to realise what neglected possibilities lie strewn on every hand. How different might our towns and cities be if only the romance dormant in a patch of soil were appreciated by every lucky owner of a "back yard."

We pride ourselves on being the greatest gardening nation in the world, but there is still room for us to prove that we can be great in little things. It is a reflection on the popularity of the pastime that the term "back yard" should have a derogatory meaning.

There lies a little patch of earth, neglected, downtrodden and hard as the heart of the owner, who sees in it no possible source of intellectual refreshment. Wonderful in its history and composition, richly stored with material which might be built into a living structure worthy of the admiration of a man, teeming with living workers and holding deeper secrets than the wisest among us have yet fathomed, it remains brown and bare beneath the oft-passing footsteps. Yet leave it entirely to Nature for a time and see what happens. Its life-supporting powers find expression and weeds appear. Where weeds can flourish fairer plants can grow.

No serious readers of this paper are likely to miss all the possibilities of the little garden, but it is doubtless in the power of many to influence others who do. If ignorance is the cause there is plenty of information which can be distributed freely with benefit to both giver and receiver.

If interest is lacking it can be stimulated by the healthy infectious enthusiasm of those who know the value of a garden, however small. Various forces are working to forward the movement, but personal influence is the most effective. Individually it may not appear much, but one of Nature's greatest lessons is the importance of little things—be they vitamins or eelworms!

The year 1922 is going to be a great year for horticulture. It will be a great year for the country, too, if it witnesses a wider appreciation of the possibilities of "The Little Garden."

A. E. SIMS.

arranged sparingly in glasses so that each flower stalk is seen, or more thickly massed in bowls, with a plentiful supply of its own foliage, this hardy annual is, no doubt, a super-flower for cut work. To lovers of blue flowers the Cornflower is to be recommended as affording good cutting material, while anyone seeking a mauve tint should grow a batch of the tall *Ageratum mexicanum*. Bright shades of scarlet, carmine, pink and rose are well represented by such favourites as *Clarkia*, *Godetia*, *Larkspur* and *Shirley Poppy*. True the last named is rather ephemeral in character, but if gathered in the bud stage makes a dainty change. Extremely useful for filling large glasses are gatherings of *Cosmea* and *Lavatera* or *Mallow*, both of which genera throw their flowers well out as long sprays or individual stems. The *Sweet Sultan* keeps fresh a long time in water, so is to be prized for vase work, also *Viscaria* and *Zinnias* last well and are fresh and bright.

One of the oldest favourites among annuals for cutting is *Mignonette*, a bowl of which is at all times greatly appreciated because of its perfume. Another old-time plant that offers a good choice for small glass work is the *Carnation*. The annual type is here alluded to, which blooms in six months to eight months from sowing. These flowers, single and double, arrange nicely in glasses for the dining table. *Salpiglossis* is also valuable for cut flower, the rich shades of its funnel-shaped blooms being attractive. Two other plants very serviceable for cutting are *Antirrhinums* and *Scabious*. Neither of these are strictly annuals in the eyes of the authorities but, flowering as they do from mid-summer onwards, the same season as sown, both families are, ninety-nine times out of a hundred grown as annuals. The *Antirrhinums* should be sparsely arranged in large bowls, their superb colours being then most telling, while the single heads of *Scabious* are best used in glasses. Lastly we have the annual *Chrysanthemums* and for late work, *Asters*, particularly single varieties of the latter, than which I question if there is anything finer among annuals for decorative beauty either in the garden or for cut work. Many of the *Asters* resemble Japanese *Chrysanthemums* in form of flower and habit of growth, while their range of colour is not much less than such; likewise they last a long time in water.

It may not be altogether out of place to add that, where the demand for cut flowers is heavy, it will be found a good plan to allocate a bed or border, proportionate with the needs, for the purpose of growing such and so avoid having to deplete those parts of the garden it has been the desire and aim to keep gay.

Amphill Park Gardens.

C. T.

ANNUALS for CUTTING

MANY and diverse are the uses to which annuals can be put, but not all are equally suitable for decoration as cut flowers, a requirement, less or great, in most gardens at some period or other. Some flowers are too stumpy of growth, others will not stand in water sufficiently well to make their cutting worth while, a peculiar shade of colour may rule out another as inappropriate, while others, again, may have to possess fragrance if used in a certain room or on a favourite table, or be barred. This latter stipulation is rare, fortunately, for the possession of the inherent virtue of sweetness is rather limited among annuals, and but few could pass the fragrance test were it common.

Were a vote taken on the subject of these notes, the *Sweet Pea* would, perhaps, be an easy first, so world-wide are its devotees; and whether

Rhododendron Cunningham's Sulphur.—A fortune awaits the raiser of a large-leaved evergreen *Rhododendron* with rich yellow blossoms, the colour, for instance, of *Azalea Anthony Koster*. *Rhododendron* hybridists have made crosses and raised seedlings beyond number in the endeavour to obtain a good yellow flower. *Cunningham's Sulphur* is generally acknowledged to be one of the best hybrids in this direction. It was raised in the Comely Bank Nurseries of Messrs. Cunningham and Fraser, Edinburgh, about 1894, the parents being *R. caucasicum* and *R. arboreum album*. At least, from the point of view of colour, a number of plants of this variety in several places at Kew are one of the most notable *Rhododendrons* in flower during their season. *Sulphur yellow*, perhaps, best describes the colour, a particularly dainty or delicate shade, much admired by visitors. From quite a small size young plants, grafted on *R. ponticum*, flower with more than usual freedom. While healthy and robust in growth, this hybrid

does not possess the vigour of such varieties as Pink Pearl or Lord Palmerston, hence it is very useful as a bedding variety.

Britain's Earliest Roads.—A small but precisely illustrated book* by Mr. Alfred Watkins puts an entirely new complexion on the evolution of trackways or, as we should now say, roadways in Britain. If what he postulates proves true, and it certainly bears the imprint of truth, the Romans must have been adaptors rather than makers of roadways. This is a book that no one with any archaeological or historical inclinations can afford to miss, while it should make a wide appeal to all lovers of the open countryside.

Two Useful "Annuals."—“The Sweet Pea Annual”‡ and “The Carnation Year-Book”§ have just come to hand. Both are full of interest. In the former perhaps the most useful part is the classification of Sweet Peas. Two exceptionally interesting articles are “The History of the National Sweet Pea Society” and “The Early History of the Sweet Pea.” “The Carnation Year-Book” (the official organ of the British Carnation Society) contains the classification of Carnations and Pinks which should prove a great help to Carnation growers. Those interested in Perpetual Carnations and Sweet Peas should be in possession of both these little books.

* “Early British Trackways,” by Alfred Watkins, (Hereford: The Watkins Meter Company, London; Simpkin, Marshall, Hamilton, Kent and Co., Limited; 4s. 6d. net.)

‡ “The Sweet Pea Annual,” 1922. Price 5s. Secretary H. D. Tigwell, Greatford, Middlesex.

§ “The Carnation Year Book,” 1922, Price 2s. Hon. Secretary, P. F. Bunyard, 57, Kidderminster Road, Croydon, S.E.

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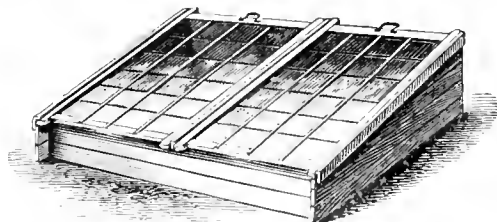
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ANSWERS TO CORRESPONDENTS

TREES AND SHRUBS

REPLANTING FOREST OR WOODLAND (S. M. L., Hants).—We have seen a mature wood of Spruce, and another of Pine (*Pinus sylvestris*), cut down and replanted with the respective kind of trees. The stumps were uprooted in the first case at great expense, but not in the case of Pine or Scotch Fir. The young trees grew satisfactorily, simply by clearing them of rank vegetation once in the course of the summer till the trees got above it. No doubt what our correspondent calls Fir is the Scotch Fir, and there is no reason why he should not plant the same kind of tree again. Many Pine woods were recently cut down in Surrey, and the stumps were not removed. In many cases the ground will soon get covered with seedlings, self sown from the old trees. The Scotch Fir withstands wind, even in the neighbourhood of the sea. It might be worth while planting Beech among the Firs as nurse trees, to be cut out when crowding commences. We are aware that other kinds of trees might follow Fir in Austria and Germany, but we would not recommend Ash near the sea. Beech, Sycamore and Elm would be better, if only as nurse trees.

LARCH AS A SCREEN (G. A. S., Bucks).—A screen of Larch trees will not be a very dense one, nor is it a tree that many would think of planting if the situation were exposed—our correspondent's locality is not particularly exposed and being distant from the sea would not suffer from sea breezes. We would give preference to the common Larch (*Larix europaea*), though a tree of the Japanese Larch (*L. leptolepis*) could be planted at intervals in the row by way of experiment on account of its distinctness. The common Larch is one of the very best timber trees where it succeeds, but is liable to Larch disease, especially in wet situations. It is a good tree for planting under forest conditions on hillsides. The Japanese Larch has longer leaves longer and stouter branches. It has not been long enough in this country to have its capabilities tested as a timber tree, but has every appearance of being a lower tree in this country than the common one. The common Larch grows quite well and freely in a gravelly soil; and the other will for a time at least. Plant them no deeper than they were in the nursery, and this can be seen by the soil-mark at the base of the stem. The common Larch will grow 20ft. to 25ft. from seed in ten years in the counties around London. In fifty years it will grow 80ft. high where it thrives; in a single row of trees it would not progress so fast. The Japanese Larch grows more slowly than this. The roots do not travel so far as those of Ash, Elm and Beech by a long way; they will, however

extract the moisture for some feet. The shade produce is very small. As Larches come into leaf and bloom before the Beech, we would prefer to plant them in February or March, because it is very exhaustive to them if the young leaves get killed owing to drought before the roots get hold of the soil.

MISCELLANEOUS.

WHERE TO OBTAIN WATTLED HURDLES (T. S. T., Somerset).—The hurdles may be obtained from Mr. Dowland, Highcliffe, Christchurch, Hants. Mr. Dowland is an expert in making these hurdles.

THE SOYA BEAN (P. R.).—The Soya Bean (*Glycine Soja*) and the Locust (*Ceratonia Siliqua*) both belong to Leguminosae, the former being an annual extensively cultivated for the seeds in Manchuria, China and Japan while the latter, a tree of 20ft. to 25ft., native of the Mediterranean region, is valued for the pods, which contain a saccharine substance and are valued more particularly as a food for stock. The seeds contain a gum said to be used by calico printers as a thickening agent.

THE DESTRUCTION OF WHITE FLY.—T. F., Bedale.—A little booklet, entitled “Tomato Cultivation Under Glass and Out-of-Doors” (published at this office, price 11d., post free), deals fully with this important subject. Hydrocyanic acid, which is the only effective agent for the destruction of this pest, is a very dangerous poison and should never be used until the necessary details are thoroughly mastered.

IRISH POTATO GROWERS (E. A. L., Henley-on-Thames).—Firms who grow Potatoes in Ireland are Messrs. Alex. Dickson and Sons, Newtownards, County Down, Ireland (or 61, Dawson Street, Dublin); Messrs. Hogg and Robertson, Limited, Nurserymen and Seedsmen, Dublin; and Manager, Lisadel Sligo, Ireland. There were other growers of Potatoes in Ireland, but whether the firms now exist or not we cannot say. Two well known growers and specialists are Mr. William E. Sands, Hillsborough, County Down, Ireland; and Mr. J. F. Williamson, Seed Potato Specialist, Mallow, Cork.

NAMES OF PLANTS.—B. E. S., Lockerbie.—Cornus Mas (the Cornelian Cherry).

NAMES OF FRUIT.—C. S., Salisbury.—Apples: 1. Probably High Canons; 2. Beauty of Stoke; 3. Hornead Pearmain; 4. Winter Quarrenden; 5, too decayed for identification.

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[APRIL 15, 1922.]

THE DAFFODIL in INFORMAL PLANTING

At this season the would-be planter can study at first hand the arrangement of the Daffodil and enter in his note-book, under September, his impressions of the best varieties and their most effective arrangement.

IT would not be quite accurate to say that of all plants the Daffodil gives, when naturalised, the best effect, but those most competent to judge would probably consider some of the artificially reared *Narcissi* among the most suitable of plants of garden origin for naturalising, or producing natural effect.

The old Lent Lily (*Narcissus Pseudo-narcissus*) of our damp meadows has real beauty, but despite the glamour which always attaches to a wildling, it is too short of stalk, too stolid and compact, to give the graceful effect produced by adequate masses of Emperor, Sir Watkin, *Barrii consociatus*, or the May-flowering Pheasant's Eye.

The planting of woodland with Daffodils was undertaken by a few artistic minds a generation ago, but it is only of late that it has really become fashionable. Still, fashionable or unfashionable, it is an eminently desirable practice and one which will bear indefinite extension. English woodland, or some of it, has wonderful natural displays of mass



DAFFODILS IN THE BIRCH GROVE AT WARLEY PLACE.

planting, as witness the Wood Anemones and the Bluebells, or, perhaps, more beautiful than all, the Primroses which, like the Daffodils in general colouring, transfigure the woodlands of the Weald and of many other parts of England. Yet none of these can out rival the beauty of bold plantings of Daffodils, especially when the latter are planted carefully and so arranged as to form a perfectly proportioned picture.

A woodland crowded with Primroses never becomes a mere stretch of colour—the undergrowth, however scanty, sees to that—and though it is possible to strike a veritable sea of Bluebells, yet some divergence of growth and the light and shade among the boles suffice to redeem the picture from monotony.

With the Daffodil the case is different. Just because it has in itself more development of form—more individuality it may be—than the Bluebell, its effect is more dependent upon good arrangement. Little clumps, even of one variety, dotted over woodland, orchard or pasture give a very unsatisfactory "spotty" effect; small groups of assorted varieties are an offence. When we come to the opposite extreme quite solid planting of large areas with one variety is very little more satisfactory. The natural grace of the flowers is no longer apparent and we get an effect similar to that to be seen at a nursery where bulbs are largely grown for cut flower.

The plantings which the pictures illustrating these notes depict show that restraint which is the surest sign of excellent taste. The picture of the Heath garden at Gravetye is introduced to show what is still an unusual, but withal a very natural and suitable combination. It may be permissible to point out that other bulbs besides Daffodils thrive well and are happily placed in association with Heaths, notably the Dog's Tooth Violets (*Erythronium*) and the Snakesheads (*Fritillaria Meleagris* and related species).

Not every garden-lover has woodland or orchard in which to display his Daffodils, but after all, a little space well treated will afford almost, if not quite, as much pleasure as a large one if only it be perfect of its kind. The upper picture on this page sufficiently well illustrates the point. Not only is the grouping admirable both in spacing and in actual size for the space at disposal, but the varieties, with their exceptional intrinsic beauty and refined but exquisite colouring, are ideal for the purpose. One feels that some would have been too large, too stiff and formal for these quiet positions, while other kinds would be quite out of the question.

The natural arrangement of Daffodils or other bulbous plants is not difficult if due care and forethought be brought to bear. It is first of all necessary to stake out the proposed groupings and to visualise the effect when the plants are in flower. Once the whole thing is staked out it should not be difficult so to modify the arrangement as to get the effect desired, but it is very necessary when planting not too slavishly to follow the curves laid out. It is wise to "sow" the bulbs in handfuls much as one would broadcast seeds, keeping, of course, roughly to the lines marked out. The bulbs are then planted where they fall either with a special bulb planter or by stripping off the top spit and replacing it with a spade. In the latter case it will be more convenient to "sow" the bulbs after the soil is removed. They should, in any case, be buried to about twice the depth of the bulb.

This question of the arrangement of bulbs will be more fully dealt with at the usual planting season, but it may be well to point out that where overcrowded bulbs need thinning, there is often no occasion to wait until autumn to replant, which involves considerable storage and trouble. If the land to be planted is not already under grass the ripe bulbs may be recommitted to Mother Earth at the earliest opportunity, not only without ill effects, but with great advantage, though if the presence of eelworm is suspected the hot-water treatment, which has proved so successful and of which we hope to publish further particulars very shortly, should first be put into operation. On no account, however, should the bulbs be lifted until the foliage has entirely ripened off, nor if they are growing in turf should this be mown until this



A CHARMING DAFFODIL WALK.



"A HOST OF GOLDEN DAFFODILS."

ripening is complete. The necessity for allowing the foliage to ripen naturally is an unsurmountable obstacle to the growth of Narcissi in closely mown greensward. One not seldom sees them introduced into what should be a closely shaven sward, but the effect when the grass has sprung up between them is very objectionable, while the fine grasses inevitably die out and the verdure becomes coarse.

Daffodil planting in the wild garden is a comparatively inexpensive hobby if the older, but quite effective, kinds are purchased. There is, once the planting is done, practically no expense of upkeep unless it be that, after a term of years, it will be necessary to lift and replant the bulbs. When this becomes desirable, however, the bulbs will largely have increased and a surplus will be on hand for further plantings.

All Daffodils prefer a rather moist soil, but some sorts are much less exacting in this respect than others. The Lent Lily grows wild in rough, more or less swampy, ground and similar conditions suit the magnificent May-flowering Pheasant's Eye (*N. Poeticus*) and, to a lesser extent, its useful early-flowering varieties, *ornatus*, *Burbidgei* and *poetarum*. Probably the new *Poeticus* varieties, now so numerous, will succeed well in turf, but those mentioned are all beautiful; they are procurable by the thousand and they are reasonable in price.

Of Trumpet Daffodils the following all succeed in turf. They are plentiful, cheap and provide much diversity of form and colour. The Tenby Daffodil, *N. princeps*, lacks the size and substance of others to be mentioned, but it is early and free and very effective when massed; colour sulphur yellow. Golden Spur is a rich golden yellow, also early to flower and, though not large, of excellent form. Emperor is at present the largest shapely rich yellow Daffodil available for naturalising, though it will probably eventually give place to the giant King Alfred even for this purpose. Empress is at present the best bicolor (white perianth, golden trumpet) variety for mass planting. The beautiful creamy-white *Mme. de Graaf* is being planted to an ever increasing extent. The species *Moschatus albus* has a grace of form exceeding even *Mme. de Graaf*, but it is not, unfortunately, too easy to establish. A moist soil and a thin pasture in shade without drip would seem to suit it best, but it is apparently a capricious plant.

Of other Narcissi only two are of real importance. These are *Barrii conspicuus* and *Sir Watkin*. Both represent crosses between the Trumpet Daffodil and the short-cupped Narcissi; *Barrii conspicuus* has the short trumpet broadly edged with orange of the Narcissus combined with the substantial perianth of the Daffodil. It is accommodating, but shows to greater advantage

and carrying its flowers well aloft, it should not be planted too closely.

Beyond these two there are a host of rapidly increasing Narcissi, such as the old *Stella*, which look well enough in quantity but lack at once the finish and colouring of *Barrii* or *Sir Watkin*. Some of them are very cheap and are often, for that reason, employed in extensive plantings



DAFFODILS IN THE HEATH GARDEN AT GRAVETYE.

in a cool, rather moist corner. *Sir Watkin*, which is, if possible, easier to do than the other, has the same substantial perianth of sulphur yellow combined with a rather more deeply coloured cup about midway in size between the short-cupped forms and those with long trumpets. A vigorous grower

Quite apart from these again are the beautiful Leedsii forms which succeed wonderfully in turf but which, like *Mme. de Graaf*, are most effective when close at hand. Of these *Mrs. Langtry* and *Duchess of Westminster* are sufficiently alike to be used alternatively or even mixed together!

SPRING BEDDING

It is not too soon to decide upon next year's display. Put it in hand now.



A HAPPY COMBINATION IN THE SPRING GARDEN—FORGET-ME-NOTS AND TULIPS.

IT must be admitted that in the average garden Wallflowers are not grown well. A good single Wallflower, before it runs to flower, should be almost as level topped as a table and should be close upon a foot across. It is easy to make a satisfactory ever-green bed for the winter with such specimens, and when their spikes expand in spring, their massed colouring can hardly be surpassed.

The Wallflower does not require indeed it resents an over-rich soil, but it should be started early and have attention when required throughout its period of growth. The actual sowing may be carried out at this season. It should certainly be undertaken before the end of the month. Very shallow drills drawn a foot apart in nice crumbly soil in the open garden will answer, but they must be protected by cotton from ravages of birds. If lights are available, a rough "box" a few inches high and the size of the lights which are to be employed will enable the soil to be kept evenly moist until the seedlings appear.

The seed should, in any case, be sown thinly, and the resultant seedlings when about 2ins. high should be thoroughly soaked, then lifted and pricked out quinnix fashion in nursery quarters about a foot apart each way.

The plantlets, as lifted, should first be taken to

the potting shed, and there they should be "topped and tailed"; that is, the tap-roots should be shortened to ensure a maximum of fibrous roots, and the extreme growing points should be pinched out in order to produce an equally bushy, well branched head. The planting should be especially firm. The soil between the rows should be stirred as necessary to assist aeration and to keep down weeds. Once the plants are established, if the bed is kept stirred there is little likelihood, on most soils, even in exceptional seasons, of the plants suffering from drought.

The Wallflower is an accommodating plant, but it is very desirable to get it into its permanent quarters while the ground is still warm in autumn. The beautiful double varieties should be given the same treatment as the single ones. For them a long season of growth is especially important, and if success is to be achieved, the soil in which they are to be grown should not be over-poor. It is perhaps well to make clear that good single Wallflowers cannot be grown in *over*-poor soil. Double Wallflowers are far less hardy than single ones and should not be used for important beds except in the South.

Polyanthuses, it has often been pointed out in these columns, are most successful for spring display, whether in beds or wild garden, when

treated as biennials. The seed, if not already sown, should be got in without delay, either in boxes or, preferably, in a bed of nice loamy soil in a frame with a north aspect. Progress is at first much slower than with the Wallflowers—indeed, germination is apt to be uncertain with old seed—but once they have braided and "got away" progress is rapid, and it is most important to prick them out—7ins. or 8ins. apart each way—before they become overcrowded. The nursery bed selected should be at least partially shaded from the heat of the sun and should be within easy access of water, as the Polyanthus abhors drought.

The middle of May will be soon enough to sow seed of Forget-me-nots. An excellent method of raising these is to lay in the old plants, as removed from the beds, thickly together in rows about 2ft. apart, reducing the intervening ground to a fine tilth and keeping it really wet by watering with a fine hose. The seedlings, which will come in multitudes between the rows, should, as soon as large enough to handle, be pricked out in fairly good soil 5ins. apart.

Of that excellent bedder *Silene pendula*, with rose, white or carmine-red flowers, it is only necessary to point out that sown now it will flower this autumn. August is soon enough to sow for spring display.

THE HIMALAYAN POPPYWORTS

TO speak of those glorious plants, the various Asiatic species of *Meconopsis*, as biennial is scarcely correct, for while in the majority of cases they die after flowering and setting seeds, they often grow for three years before they reach the flowering stage. It is a matter of the greatest uncertainty—some seedlings grow away and flower as a matter of course in their second summer, while others continue to grow and throw up leaves for two or three years before doing so. In the latter case, they continue to accumulate strength and vigour all the while, and when they do at last blossom forth, the spikes and flowers are all the larger and finer.

Being biennial we must raise our seedlings annually either as soon as the seed is ripe or sowing in early spring in a cold frame. Whenever they are sown, I strongly recommend the sowing in seed pans in a cold frame, for they are too precious to expose to the uncertainties of wind and storm. This remark does not apply to *M. cambrica* and its varieties, for this is so astonishingly fertile that seedlings spring up literally in thousands all over the place; indeed, I should hesitate to introduce it anywhere except in the wild garden or the rougher places, for once it obtains a foothold in a rock garden where there are choice plants it becomes a veritable weed. No such fear need be entertained with the double variety of this, a really choice thing that reproduces itself all too sparingly.

M. aculeata is a truly superb flower, introduced a few years ago from the Himalayas. It forms a rosette of bright green leaves clothed with fine silvery hairs, from the centre of which pushes up a loose terminal panicle of the palest blue or mauve flowers with a cluster of golden yellow stamens at the centre. These flowers are wonderful in the early morning while the dew is still on the grass and they have just freed themselves from the sheaths that encased them. The petals still retain much of the wonderful crinkle that results from the close packing into the buds and yet reveal the wonderful mass of anthers at the centre. These are as yet damp and clogged together in masses, but as the atmosphere dries they separate and the pollen becomes dehiscent, as the botanist says, showering down on to the lower petals at the slightest touch. It is a long-lived flower too, as the buds continue to open in succession one after another for some weeks. *M. integrifolia* is a gorgeous Chinese species, 2ft. to 3ft. high and freely reproduced from seed. The foliage is a beautiful woolly green, while the flowers, which are drooping, are pale primrose yellow with stamens of the same colour. There are two distinct forms of this under the same name, that introduced first bearing several flowers on a separate pedicel branching from the main stem. The later species produces a number of stems from each root, each of which bears a single flower. *M. nepalensis* is a very rare plant, difficult to

obtain and to keep. It has branching stems and brick red flowers, but I must confess that I have never seen this. *M. paniculata* is often confused with the above and a very fine plant it is, the foliage being thickly covered with silky hairs and the branched stems covered by drooping golden flowers.

M. punicea is a very remarkable species, the drooping flowers of which should be turned upwards to appreciate their full beauty.

M. racemosa is very similar to *aculeata*, but much bluer and quite as attractive, when first expanded the crimping of the silky petals being very noticeable.

M. simplicifolia is very dwarf; in fact, quite the dwarfiest, not exceeding 1ft. in height and more often about 6ins. The flowers, which are blue, are solitary, opening in July.

M. Wallichii, the Satin Poppywort, is notable for its beautiful foliage, which is much divided and smothered with silky hairs. The strong, tall, branching stems bear numbers of wonderful satiny blue flowers, the whole plant rising to 4ft. or 5ft. in height. After a shower or heavy dew the prettily cut foliage and golden hairs form a wonderful sight, as these hold tiny beads of moisture-like glistening pearls. A soil composed of fine peat, leaf-mould and sand is the ideal medium in which to plant, for they have a marked preference for a soil that is light and yet retains moisture.



THAT GOLDEN FOLIAGED TREASURE, *MECONOPSIS WALLICHI*.



PALE BLUE PLATTERS AND DEEPLY LOBED FOLIAGE OF *M. ACULEATA*.

Partial shade is also desirable for all varieties, so that evaporation is not too rapid. Where growing in full sunlight they must be copiously supplied with moisture, and even then do not, as a rule, attain the full stature that they will in partial shade.

The plants are quite dormant all through the winter, though the very woolly leaves persist and must be protected from excessive wet by placing a sheet of glass over them, raised a few inches

will provide plenty of excellent cuttings quite early in autumn, and these, rooting quickly in the warm soil, will next April be admirable plants just fit for planting out.

The large-flowered Pentstemon seems of late years to have suffered something of an eclipse, its merits having been largely obscured by the many excellent strains of Snapdragons on the one hand and by the small-flowered Pentstemons of the Gem class on the other.

saved from these. Pentstemon seed is as well sown as soon as ripe, but it keeps moderately well and may be sown under glass early in the year or in a cold frame at this season. Seed may be procured in the first instance, but it is advisable, in that case, to procure it from a firm that specialises in these plants.

Tastes naturally differ, but the writer must acknowledge a partiality to the still rather uncommon pale mauve shades, some of them so pale that the expanded flowers are pure white. The pale pink and soft rose shades are, however, very beautiful; the deep maroon sorts, some with immense bells, give dignity and weight to the border. The so-called scarlet and crimson varieties, which are undoubtedly the ones most commonly used, need careful arrangement.

The red and rose shades of the Pentstemon have that admixture of blue which characterises the flowers of such plants as the Mallow and its relatives, the Lavateras and the Sidalceas, the Japanese Anemones and the Cosmos. This type of colouring is apt to clash badly with the clearer, cleaner shades with yellow in their composition which are yielded by many varieties of such plants as the Snapdragon, the Phlox, the Gladiolus and the Lily.

Pentstemon Newbury Gem and, to a somewhat smaller extent, the others of the Gem class will stand an average winter outdoors in the South-West and more favoured parts of the Midlands of England; but, like the Wallflower, it is most useful and effective when renewed each year in the ordinary way. Rightly or wrongly, but the writer thinks wrongly, it has of late years been largely superseded by the larger-flowered, looser-habited Southgate Gem, which is hardly so satisfactory in colouring.

The great justification for the Pentstemon's existence lies in its value for replacing in the herbaceous border, plants such as the Oriental Poppy, the Leopard's Bane or the Aquilegia, which flower early and which would, if not interplanted, produce unsightly gaps. This certainly is where the more robust Gem class prove their worth, since they may be kept in pots even into June and will then quickly over-get the check of removal.

Of large-flowered varieties there are a multitude, but the especially recommendable: Emile Rodigas, scarlet-crimson; Rosamund, soft rose; Spitzbergen, palest mauve, opening white; and President Carnot, maroon.



THE VERY DISTINCT SULPHUR-YELLOW MECONOPSIS INTEGRIFOLIA.

so that air can circulate, but the glass must be removed immediately new growth starts in spring. Precautions must be taken against slugs, which are partial to Asiatic species at all stages of their growth.

H. W. CANNING-WRIGHT.

THE USEFUL PENTSTEMON

THE season has once more arrived when Pentstemons may be planted out in their permanent situations, but before lifting the rooted cuttings in earnest, it is wise first to try one or two to assure oneself that they are thoroughly well rooted. If the cuttings were, for any reason, put in rather late, or if the frame in which they have rooted is not a particularly sunny one, they may be backward, for cuttings of this plant take a considerable time to form roots. If they are, even now, not well rooted it is better to leave them another week or so, as they should make rapid progress at this season. Spring winds are notoriously drying, and one cannot expect inadequately rooted plantlets to withstand them. It is none the less most advantageous to get the plants established early, so many growers, about February remove the cuttings from the cold frames in which they have wintered and struck and, potting them up singly in 3in. pots, bring them forward first in a little heat and, after they are established, in a cool greenhouse.

This method, however, makes work and also necessitates the occupation of a deal of valuable space which may easily be avoided if plants are reserved every year at this season for stock and not allowed to bloom. Such plants, if well grown,

Snapdragons may, we know, be readily raised from seed, and the small-flowered Pentstemons throw cuttings much more freely than do the large-flowered ones. On the other hand, the small-flowered sorts, though invaluable, are mass plants, like the Catmints, owing their value to the associated colouring of the group rather than to any particular form or grace inherent in their flower or habit of growth, while the best of the large-flowered kinds may hold up their individual spikes unshamed even in comparison with the Gladiolus or the Phlox.

Named varieties of much excellence may be obtained from the specialists, and seed may be

“MAGGOTY APPLES”

Their cause and prevention.

EVERYONE who grows or uses fruit is familiar with so-called “maggoty Apples.” These occur now and again in even the best regulated plantations, while in old and neglected orchards and gardens it is sometimes difficult to find a sound one. In spite of this, but few people know much about the cause of the infestation, or the origin of the “maggots” they find in their fruit. Moreover, there seems much confusion among gardeners between the two insects responsible for this damage, viz., the Apple sawfly and the codling moth.

The Apple sawfly is the least known of the two, and the damage done by its larva is often attributed to the codling moth, but is really of quite a different nature.

The sawfly is a small insect, about a quarter of an inch long and five-eighths of an inch across the

expanded wings. The general colour of the upper surface of the body is black, and orange underneath. The females may be found resting on the Apple blossom in bright sunlight, during which they deposit their eggs, usually during the morning, placing them on the ovary below the calyx.

The eggs, which are laid singly, hatch soon after the falling of the blossom, and the newly



THE APPLE SAWFLY.
Hoplocampa testudinea (· 2)



APPLE FRUITLETS ATTACKED BY THE APPLE SAWFLY.
(Slightly reduced).

hatched larva commences to attack the tiny fruitlet on which it finds itself.

For a day or two the young larvæ feed on the outside of the fruitlets, which they occasionally fail to enter through working along the side, and then their work is usually manifest in the form of an elongated brown scar on the full sized Apple.

They generally enter the fruitlet in a day or two, however, passing through the side or base, but *not* through the calyx, as is the case with the larvæ of the codling moth. They make their way to the core, which they entirely devour, together with the greater part of the centre of the fruit. They feed voraciously and rapidly increase in size, so that the resources of the first fruitlet are soon exhausted. Consequently they leave it and enter another, and each larva probably destroys several fruitlets in this way.

The attacked Apples may be detected when very small, by having a little round hole at the side, from which a wet brown mass is exuding. Later on, the hole becomes larger and is much more noticeable, but it is important to look out for the attack in its early stages.

If one of these fruitlets be cut open, the centre will be found more or less hollowed out, and the cavity filled with a wet, sticky mass of brown excrement, which also exudes from the entrance hole. The larva, if still present, will be a fat cream-coloured caterpillar, with twenty legs, and is thus easily distinguished from the larva of the codling moth, as shown later on.

The writer has never found a sawfly larva in an Apple larger than about $\frac{1}{16}$ in. in diameter, and it is probable that most of them are full grown by that time, as under normal conditions there is usually only one brood during the year.

The damaged fruitlets may occasionally remain on the tree, where, if undisturbed, they will hang in a mummified form all winter; but normally they fall from the tree in the later stages of the attack, the larger fruitlets still containing the larvæ, which soon leave them and pupate in the soil. Before pupation they shrink considerably and spin a parchment-like oval cocoon of a dark brown colour and about a quarter of an inch in length. Within these cocoons they undergo their transformations and emerge as sawflies the following spring.

This insect is not common everywhere, but is usually abundant where it occurs at all. It is a

pest which seems to be on the increase, at any rate in the district from which I write (North Hertfordshire), and it is therefore important that measures be taken this spring to check it.

Being an internal feeder, but little can be done when once the fruit is attacked. If discovered in the early stages, some good may be done by hand-picking the attacked fruitlets and either burning, or burying them deeply, or giving them to pigs. This would require too much labour to be profitable in large orchards, but is certainly worth doing in gardens where only a comparatively few trees are present, and the fruit will benefit by the thinning. If much of the fruit should fall, it must be gathered up as soon as possible and effectively disposed of, and if a soil fumigant were forked into the soil around the affected trees it would no doubt destroy many of the larvæ before they had a chance to pupate.

These measures cannot, of course, be regarded as remedies, and are merely the necessary precautions to prevent the spreading of the attack and its recurrence next season.

The best preventive measure is to spray with lead arsenate as soon as the blossom has fallen, so that the fruitlets get covered with the poison before the sawfly larvæ hatch. Then, when the larva emerges from its eggshell, the first bite it takes is likely to be its last.

If, in spite of this spraying, some larvæ are found to be present, the trees should be sprayed again



APPLE FRUITLETS OPENED TO SHOW SAWFLY LARVÆ INSIDE.
(Slightly reduced).

a week or two later, when many would be poisoned as they change their quarters and start on a fresh fruitlet. It is important to use a lead arsenate that has good adhesive properties.

The "maggots" found in large Apples are invariably the larvæ of the codling moth, an insect which has been known for at least four centuries.

As these two insects are frequently confused, it is well to note the points of difference between their larvæ and methods of feeding.

The Apple sawfly larva is white or cream coloured, stout, and has twenty legs. The codling moth larva is usually of a pinkish tint, comparatively thin, smaller than the sawfly larva, and has only sixteen legs. While the sawfly larva usually enters the fruitlet through the side, the codling larva always enters through the "eye," or calyx, and so leaves no apparent hole after the calyx has closed up. Later on, when the Apple is fairly large, it makes another hole to the side; but this is an exit and not an entrance hole.

The codling larva does not destroy the fruit to anything like the same extent as the sawfly. It feeds more slowly, and whereas the latter makes

a great cavity in the centre of the fruit, the former only makes a few tunnels in and around the core.

The codling moth is about half an inch across the wings, which are greyish in colour, with a large brown blotch at the hind margin of the front wings, which have a beautiful satiny sheen



YOUNG APPLE DAMAGED BY LARVA OF CODLING MOTH.
(Natural size).

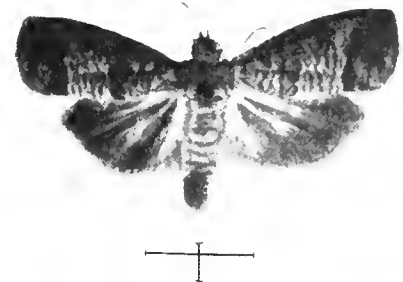
when seen in a certain light. The moth appears just about the time the blossom is falling and lays its eggs on the fruitlets. The eggs are a pearly white and glisten like a drop of dew. As soon as the larva is hatched, it makes its way to the calyx, on which it feeds to some extent before actually entering the fruitlet.

When full grown the larvæ leave the fruit and fall to the ground; then make their way either to a tree trunk or a post or fence near by. They crawl some way up the first object they come in contact with, and spin a cocoon in a crevice, in which they hibernate, pupating in the early spring.

The placing of "hay bands" round the tree trunks is a very old custom. The larvæ spin up in these, which are then removed and burnt during the winter, and quantities of larvæ may be destroyed in this way. Loose bands of old sacking are equally effective and easier to apply. A favourite place for the codling larvæ to spin up in is in the bands of felt or sacking used when young trees are tied to stakes.

As in the case of the Apple sawfly, the only chance of poisoning the larva is when it is feeding externally, and it is therefore necessary to spray within a week of the falling of the blossom, so that the arsenate may lodge in the calyx, while the latter is still expanded. If the trees are thoroughly well sprayed at this period, there is little chance of having "maggoty Apples."

RAY PALMER, F.E.S.



THE CODLING MOTH.
Carpocapsa pomonella. ($\times 3$).

THE PROPAGATION OF MINT

MINT is one of the most popular herbs cultivated in gardens, although it is sometimes neglected by the amateur gardener. Many people are content to buy a quantity of Mint, dry it and place it in bags for future use. This is justifiable when the gardener has no facilities for forcing



ROOTED MINT CUTTINGS.

Mint, but there are folk who, even when this herb is in season, use the dried stuff, either because they are unable to procure the succulent green tops or because they consider it too troublesome to be worth growing.

The cultivation is in reality quite simple and, given a fair start, it will not require much attention. There are several species, but the one generally cultivated is the Spear Mint (*Mentha viridis*), which is used in its green state—forced or otherwise—for culinary purposes. The dried leaves are a poor substitute when the new Potatoes arrive.

Increase of stock may readily be effected at the present season. The work may be carried out in two ways, either by division of the clumps or by taking cuttings. Undoubtedly the latter method is preferable. By inserting cuttings at the present time, clean healthy stock will be secured. Division of the clumps is effective, but the growths will not be so vigorous or of the same quality as stock raised from cuttings. These should be taken off an inch or so below ground level with a root or two attached—much as one takes *Viola* cuttings, in fact. They will root freely if dibbled into moist sandy soil, especially if a handlight can be spared to place over them for a few days, giving shade when necessary.

The accompanying illustration shows two rooted cuttings. The cuttings should be inserted in the ground up to C, but a little deeper will not hurt in light soils. The longer cutting should be shortened to A before insertion, to prevent undue strain upon the root action. B shows the rootlets.

Mint thrives best in rich moist soil, but it really is not fastidious. It is, however, advisable to manure light, hungry soils.

Failure with Mint is as a rule attributed to the poorness of the soil, but the most frequent reason is that the gardener in the autumn or winter

when digging the garden covers the Mint over with a few inches of soil, and in consequence the shoots are unable to make their way through. Where a bed of Mint has been in existence for some years a depression in the ground is generally to be found, and the gardener in the interest of neatness levels up his soil.

A bed of Mint will thrive, when established, for several years without attention, but to obtain the best quality it is advisable to propagate every year. Cuttings, or "sets," as they are called, should be put in a foot apart each way. They should then be a solid mass of roots by late autumn. H. G.

Stopping and Potting Large-Flowered Chrysanthemums

This work, to the expert cultivator, is easy enough, but the beginner finds it very perplexing. The brief notes and sketches should make all these matters quite plain to him

THE result of a year's work may depend upon the treatment that the plants receive during the trying time when they are producing buds to cause the first, or natural, break or when they are stopped—the points of the plants pinched off to cause the break just at the time most suitable for certain varieties. I do not intend to deal with particular varieties, as too much space would be required, but with the general treatment of the plants as regards stopping, final potting and staking.

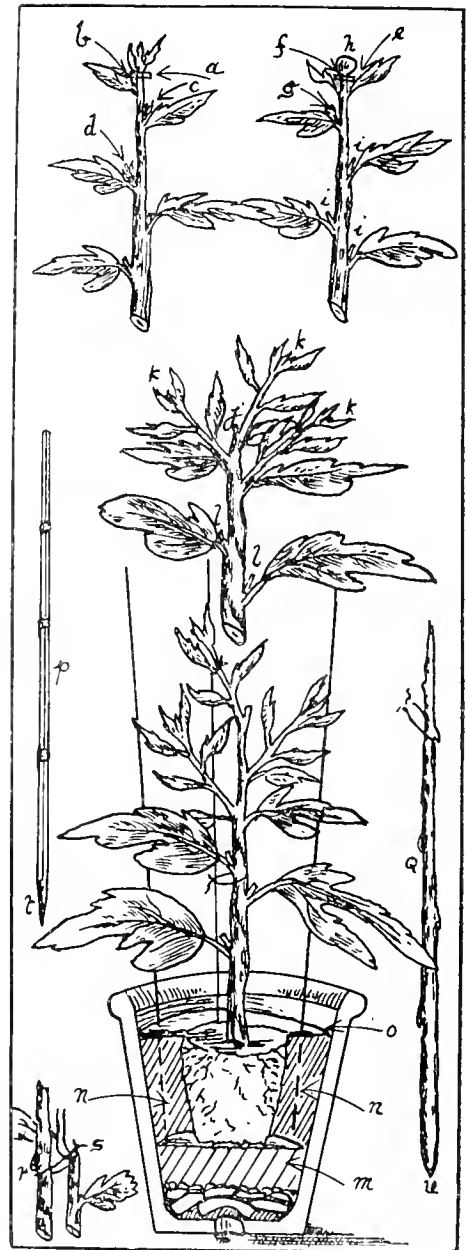
The first break is caused, really, by the formation of a crown bud around which shoots grow; this bud stops the free growth of the single stem and causes a number of side shoots to grow, which, in due course, overcome the bud, the latter shrivelling up. If three blooms are required on a plant, the three shoots immediately below the bud are trained to stakes and the others, still lower down, are rubbed out. This break-bud formation does not occur naturally at the right time for certain varieties, in which case the cultivator must cause a break by stopping the shoot—pinching off the point. Natural breaks occur during the latter part of April, during May and the first half of June mainly. The latest flowering varieties are the ones chiefly to be stopped; a few of the medium sorts need this attention too in order that all may be in bloom at the same time, say the first week in November. The earliest flowering varieties rarely need to be stopped.

If a plant needs stopping remove the point of the stem as shown at *a*; the three side shoots, *b*, *c* and *d*, must, in due course, be taken on and trained to stakes; all other shoots, as shown below, are removed. When the bud forms and causes the natural break, *e*, *f* and *g* respectively, are the new shoots to be trained to stakes; *h* shows the bud which may be removed or left to wither; *i*, *i*, *i* show when the lower side growths must be rubbed out. The next sketch shows the progress of these new shoots. The bud was formed at *j*, and the three shoots *k*, *k*, *k* are making good headway; *l*, *l*, show shoots removed.

THE FINAL POTTING AND STAKING—Old turves, cut long enough for the grass roots to die in them, should form the bulk of the compost. Sweet leaf soil, three-parts decayed, sand or old mortar rubble, a few wood ashes, bonemeal and horse manure fermented, without undue heating and burning, are the other ingredients. Firm potting in clean, dry pots, well crocked, and judicious feeding and top-dressing as required, coupled with careful attention to watering and tying of the stems, should result in a good harvest of high-class blooms. The letter *m* shows the rougher portion of the compost placed on the crocks; *n*, *n*, show how the permanent summer stakes are driven into the new compost and not into the ball of soil and roots. When the work of potting is finished ample space must be left at the top, *o*, to allow of top-dressing being carried out as the large pots fill with roots.

AS REGARDS THE STAKES—If bamboos are used as shown at *b*, very little dressing will be needed; but if ordinary hedge or wood stakes are employed, as shown at *q*, then it will be advisable

to trim off all knots smoothly, else the tying material will be held by the knots *r*, and result in the stem of the plant, *s*, being snapped off. The raffia or tying material does not slip up the knotted stakes as the stems of the plants carry it up. In



HOW TO STOP, POT AND STAKE CHRYSANTHEMUMS.

the case of the smooth bamboo stake there is not this danger. All stakes must be well sharpened to needle points as shown at *l*, and not left with a blunt point as shown at the letter *u*. G. G.

CORRESPONDENCE

A SELECTION OF SHRUBS.

IN reply to a letter from your correspondent, "H. E.," with reference to shrubs and trees suitable for a chalk soil (THE GARDEN, April 8, page 167), the following list may be of some use to him. I have classified it separately in order that he may realise the difference of growth. In a short note, such as this, it is hardly possible to give a detailed description of the individual habits of each plant. Trees: Acacias in variety, Beech in variety, Gleditschia triacanthos, Chestnuts, Norway Maple, Japanese Maples, Sycamore, Mountain Ash, Pyrus Sorbus, Flowering Thorns. Large-growing coniferae: Austrian Pine, Scotch Fir, Spruce Fir, Thuiopsis borealis, Cupressus Lawsoniana and varieties, Silver Fir. Smaller-growing coniferae: The whole of the Juniper family, the more dwarf varieties of Cupressus. Other evergreens: Hollies in variety, Yews in variety, Portugal Laurel, Veronicas of sorts. Olearias, Laurels, Cistus, Laurustinus, Japanese Privet and other varieties of Privet, Daphnes of sorts, Pyracanthas of sorts, the Evergreen Berberis. Of deciduous shrubs a large selection can be used, and the following would, perhaps, be a sufficient mixture to include with the above: Berberis of sorts, Deutzias, Elders, Viburnum of sorts (Guelder Rose), Lilacs, Philadelphus of sorts, Pyrus japonica, Ribes of sorts, Snowberry, Weigelas of sorts and Spiraeas of sorts.—F. GOMER WATERER.

PLANTING AND TRANSPLANTING TIMES.

THE discussion on planting and transplanting (pages 145 and 155) has interested me. I have heard some gardeners say that they could transplant during almost any month of the year. A nurseryman told me some years ago that he has transplanted conifers in July for lack of a more convenient time to do it. Doubtless this could be done just when the trees have made and hardened their season's growth. This also applies to Privets and Euonymus, which make several distinct growths during the year. If these are moved at other times than when leaves and shoots are young and tender they will succeed. Conifers in nurseries are, in normal times, easy to move, because they are transplanted every few years with this object in view. I have assisted to transplant Irish Yews, Abies and Beech 7ft. to 10ft. high in May, and they succeeded, although they had been growing in the same site for many years. The reason why autumn is such a favourable time for transplanting is because trees have made a considerable amount of reserve food, and a large portion of this is carried downwards to extend the root system, as soon as the autumn rains have moistened the ground. The extension of the roots continues for some time after the leaves of deciduous trees have fallen. I have noted this also in Roses, Loganberries and Strawberries. Scabiosa caucasica and its varieties must not be transplanted in autumn, but in spring, and the leading growers are now aware of this fact.—HORTULANUS.

NOTES FROM GLOUCESTERSHIRE.

A FEW notes from this part of the country from one who is quite new to it may be of interest. It is in the heart of the hunting country, Badminton district. I am much struck with the large gardens attached to the cottages, but in no district have I seen them so neglected. It is the A B C of the work that is ignored, so that digging seems left till March; it is a great contrast to the orderliness and love of their gardens of the villagers of the East Coast. The Madonna Lily

flourishes amazingly, the foliage so strong and healthy. In one garden against the house, in a border 7ft. long and under 2ft. wide, they looked almost too crowded to flower, yet they yielded nearly 100 spikes of bloom. Could any reader inform me if other Lilies are likely to do well? We have cold winds from the west; the top-spit is a fertile loam, but clay 12ins. to 18ins. below. Pyrus japonica is a wonderful sight here, full of blossom.—B. P. G.

A PLANT FOR A DAMP OR SHADY POSITION.

THAT very attractive plant, Heloniopsis japonica (syn. Sugerokia), which comes from damp or shady woodlands in Japan, might with advantage be used more freely in our gardens where suitable positions offer. The plant, as the name suggests, is botanically related to Helonias bullata, a liliaceous plant which, under the name of "Stud-flower," is rather better known, although



USEFUL FOR DAMP OR SHELTERED GARDENS—HELONIOPSIS JAPONICA.

still far from common. The plant is perfectly hardy and can readily be increased by careful division of the short, horizontal rhizomes. The lanceolate, evergreen leaves are arranged in loose rosettes from which rise in April or May sturdy stems, carrying loose clusters, of up to about ten in number, of somewhat bell-shaped flowers which may be pink or soft rose in colour. The effect of a good group of these is highly attractive, and a position protected from the sun until well after midday should be selected for this handsome plant. An open position on the outskirts of the bog garden, where it succeeds very well, or a sheltered dell in the rock garden with a westerly aspect, would suit it where no woodland garden is available. The plant is not at all difficult under conditions as indicated, and only needs to be better known to become popular with hardy plant lovers.—W. E. TH. I.

V. M. II. AWARDS.

I WAS very pleased to read "Senex's" tribute to Mr. John Fraser (page 155). I was introduced to him a few years ago at an R.H.S. Show, but had no idea who or what he was. I have met him

again on subsequent visits to the R.H.S. Hall, when he has been most kind in answering and explaining things asked by an ignorant amateur. I have never met anyone who knew so much about horticulture all round as Mr. Fraser does. I am so absolutely an "amateur" that I do not know what V.M.H. stands for—but if it is "Veteran Master of Horticulture" it is fittingly bestowed on Mr. John Fraser.—ANNE AMATEUR.

WHAT IS A "HARDY" ANNUAL? A GENUINE GRIEVANCE.

I HAVE a complaint to make (not a "grumble"—to grumble, according to a dictionary definition, is "to complain without cause"). I made out my list of hardy annuals, so called! in several leading seedsmen's catalogues (having only one very small hot-bed reserved for a few half hardy and tender annuals). When the seed packets arrived, imagine my dismay in reading directions on several: "Raise in gentle heat"; "Sow in a hot-bed in February," and so forth. Now, I ask, is this fair of the seedsmen? I do not consider it cricket on

their part. If these so-called "Hardy" annuals require to be raised in heat, wherein do they differ from half-hardy ones, such as Stocks and Asters? Here I am "landed" with a lot of seeds which are of no earthly use to me! I think it would be only fair if I were to send back the packets to the vendors and request the return of my scanty spare cash—the seeds having been wrongly described as hardy in the seed lists. I am feeling extremely ill-used on this matter. Now, Messrs. Seedsmen and Sons, what have you to say to allay my rightful wrath? Since writing the foregoing THE GARDEN, April 1, has arrived, and among the unusual annuals I am delighted to find four I have just ordered "on spec," to wit, Cnicus coccineus, "Flora's Paint Brush"—what a nice old-fashioned sounding English name; the ruby dwarf variegated Nasturtium, and I have ordered the white one also; Schizopetalon Walkeri (for my fragrant border) and Nicandra physaloides Fearsome names!—which I hope will help to form a summer screen in company with Hemp, and two or three other tall things behind a garden bench. Have these two latter any English names? Please someone do tell me

if they have. In the description of *Salvia Horminum*, Blue Beard, methinks I recognise my old country cottage garden "Purple Clary," and if I rightly remember there were also red and white Clary; am I right? Most of the other unusual annuals I have grown or known, but having no rock garden I do not want them here.—A. A.

EUCRYPHIA PINNATIFOLIA IN SCOTLAND.

I READ your note (page 154) on this shrub with great interest. Such a wonderfully hardy shrub should be grown more often. Here, in Forfarshire, by no means a mild climate, we have a very fine specimen. It is planted in ordinary soil in an open bed with no protection, though the house cuts off the north. I think people must often fail with it from want of patience. Here it was six years before it flowered and we several times thought of digging it up. It flowered for the first time in 1910 and then our waiting was rewarded. The shrub grows so strong, it is almost a tree and we have to keep it within bounds. This is mostly done by cutting the flowers, which last very well in water. The shrub has a further merit, as it flowers in August when most things are over. It has always ripened its seed here and we have raised it very successfully. We would exchange the seeds of *Eucryphia pinnatifolia* for seeds of any other uncommon hardy shrubs.—MAY NOEL, *Pitkerro House, Kingennie, Dundee.*

A LOVELY STONECROP.

I WAS pleased to see a note on *Sedum brevifolium Pottsii* in THE GARDEN of April 1 (page 158), for it is a special favourite here and one well worthy of wider attention. Like many other *Sedums* the colour appears to vary considerably according to season, climatic conditions and probably soil. In this garden quite one of the most attractive features of the plant is the clear, almost electric blue which invests the mealy covering of the leaves during winter. In Mr. E. C. Buxton's garden at Bettws-y-Coed there is a natural pyramid of slatey rock covered with this lovely variety, forming one of the most attractive objects in a garden full of good and interesting things. In this instance the *Sedum* is rooted in the lichenous chinks of the hot southern face of the rock, but that it will do in a cooler medium is proven by the way it flourishes with us on some moss-covered stones. It is also grown on the flat in very well drained, gritty soil in association with the *Kaonias* and other lowly plants. Here, as elsewhere, it propagates itself freely by rooting the tiny sub-globular leaves which fall off the stems.—A. T. J., *N. Wales.*

SHOULD WE KILL WASPS?

WHAT have gardeners to say when a learned professor, backed up by a popular daily paper, tells the great B.P. not to kill wasps—not even queens? (This in addition to some wonderful hints as regards spraying and advice to the Ministry of Agriculture that the latter should issue instructions regarding certain insect pests which have been issued years ago!) To my mind wasps are among the most undesirable of insects, dangerous as well as unpleasant, and a source of great loss to fruit growers, especially when their numbers are excessive. Moreover, they are creatures whose habits are hardly less filthy than those of house-flies. That they do destroy a few of the latter (as the professor has discovered), has been common knowledge for at least 200 years, but that alone is not sufficient to exonerate them for their evil doings. Even the common fly has some quite desirable and useful attributes, but we do not spare its life on that account.—N. WALES.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Seakale.—The thongs selected as advised in a previous calendar should be planted on a well cultivated and open plot of ground. The rows should be about 20 ins. apart and the thongs about 15 ins., keeping the crowns slightly below the surface. If slugs are troublesome place a ring of ashes around each head.

Turnips.—See that a good breadth of these are sown, so as to follow the small early supplies from frames and warm borders. The drills should be 15 ins. apart, and the young seedlings thinned out in good time, allowing from 6 ins. to 8 ins. from plant to plant, according to strength of variety. This is essentially a vegetable where a quick growth makes the roots more acceptable, so encouragement should be given by hoeing frequently and watering during dry spells.

Runner Beans.—It is perhaps hardly wise or practical to risk a large sowing of this vegetable before early May, but it is certainly worth trying a few. At the same time sow a batch in 60-size pots and allow germination to take place in a frame. Pot on into 48-size pots when ready, and grow the plants sturdily until all danger of frost is gone, then plant out in well-enriched soil, 18 ins. apart in the row. A strict watch must be kept for slugs during the plants' early stages of growth.

Dwarf French Beans.—These, in company with the Runner Beans, are easily injured by frost, and large sowings should be delayed for another fortnight. A small sowing, however, should be made in a warm spot in light soil, and care taken that a batch of sturdy plants will be available from boxes at the end of the month or early May ready for planting out.

The Flower Garden.

Evergreen Hedges.—The majority of these require at least one trimming annually, and the present offers a suitable time for such as Holly, Box, *Thuja* and the Laurels. The Yew is always best dealt with during the latter part of July and early August. Should it be desirable to give a close and even trimming, the work must be carried out with a pair of shears, but a much more natural appearance is attained when the secateurs are used. The *Thuja* hedge especially should be thus dealt with, and I think it is but seldom anyone would use other than the knife or secateurs in dealing with Laurels.

Lawn Verges.—The care of these should always be considered, for when well kept they undoubtedly add a great deal to the appearance of the grounds. It may be found necessary occasionally to use the edging-iron, and such work should be done now at the commencement of the mowing season. The shears, used regularly and before the grass is allowed to grow too long, will easily maintain a firm verge outline for the remainder of the season. Verges lacking in vigour, and those that are mossy and impoverished, should be dressed at once with a good lawn manure, repeating again in a fortnight's time.

The Hardy Fruit Garden.

Vines on walls and buildings in warm positions are very active, and it will be necessary if the prospective crop is to have a good start that disbudding be undertaken in good time. While overcrowding must be guarded against, it is, I think, always advisable in dealing with Vines in such positions to ensure a fair covering of wood. The laterals selected for fruit bearing should be stopped at a couple of leaves beyond the bunch, and all subsequent sub-growths kept pinched also.

Fruit Under Glass.

Muscat Vines in Flower.—During the next few weeks many Vines will be in flower, and the success of the crop depends to a great extent on the treatment given at this season. In some gardens it is almost as easy to obtain a good set of Muscats as Hambros, but it is equally true in other gardens it is sometimes most difficult to obtain a satisfactory one. A great point to bear in mind is consistency of treatment; thus, should it be the aim of the grower to flower the Vines in a night temperature of 70° to 72°, this should be gradually reached and not immediately raised to this figure in a big leap. Again, if the treatment is to keep an entirely dry atmosphere during flowering time, less moisture should be given for a short while before that stage is reached. One of the main factors in securing a good set,

whether of Muscats or others, is to make sure of a good root action and see that the borders are just nicely moistened through before flowering commences. As a few aids in trying to make sure of a free setting of berries, carry out all necessary stopping of shoots a couple of days before, so that none will be necessary during the time of flowering. Do not tie down the shoots until afterwards. Arrange matters so that plenty of light and air reaches all bunches, and between 10.30 and 12.30 go lightly over all bunches with a rabbit's tail with pollen from a free setter, if such be available. It is perhaps hardly necessary to add that fluctuations of temperature and cold draughts must be avoided.

H. TURNER

(Gardener to the Duke of Northumberland).
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Broad Beans.—Sow goodly quantities of the long-pod varieties now. As this popular vegetable is always in demand, more especially is it desirable to provide pods of tender young Beans throughout the season, and this can best be done by successional sowings. Sow in double rows 2½ ft. apart, and keep the soil well cultivated between the rows. In wind-swept gardens stakes should be inserted at intervals in the rows, and binder twine run down either side as a support.

Turnips.—Make further sowings of Early Milan varieties, so that a fresh and constant supply of roots may be maintained. Early Turnips are often attacked by the fly, so should be dusted with soot or wood-ash as a preventive.

Brassicæ.—Sow in the open border autumn and winter varieties of the Brassica family, including Borecole, Autumn Giant Cauliflower, Savoys and Veitch's Self-protecting Broccoli.

Celery.—Sow seed of Celery for late planting, and prick out earlier sowings into boxes or frames. Use a rich compost, and place a layer of well rotted dung in the bottom of the boxes, or under the layer of fine soil in the frames. Given this treatment the plants lift with fine roots when being transferred to the trench.

Tomatoes.—Pot on the various batches before they become pot-bound, and place on a shelf near the glass. Avoid too high a temperature, and admit air freely during sunny weather. Cold draughts must be guarded against, as there is nothing more detrimental to the welfare of young Tomato plants than a current of chilly air.

Carrots.—The principal sowing of Carrots may now be made. Choose a day when the ground is in good working order, and sow in shallow drills 12 ins. apart. In many private gardens the intermediate varieties are most favoured, and in this class we find Austin's Exhibition one of the best; it is practically coreless and of superb quality. Long Red Surrey is a reliable long-rooted sort and specially suitable for late keeping.

Potatoes.—Continue with the planting of second early and maincrop varieties. Abundance, British Queen, Great Scot and Arran Comrade are first-rate second early sorts. Arran Victory (purple skin), Crofter, King Edward and Kerr's Pink can be depended upon for maincrop.

The Hardy Fruit Garden.

Raspberries.—If unable to top-dress with organic manure, a dusting with some kind of artificial stimulant will greatly benefit. Hoe it lightly in, and the spring showers will take it to the fibrous surface roots.

Peaches on Walls.—Where these are in flower they ought to be protected at night from late frosts by hanging a double ply of fruit netting in front of them. A few bent Willow shoots placed through the branches will keep the net from becoming entangled in the foliage or from damaging the blossom.

The Flower Garden.

Kniphofias.—Beds of these in the shrubbery or flower garden should now have the surface soil stirred up and given a mulching of rich farm-yard manure. The more tender sorts, which have been wintered in cold frames, should now be placed in their flowering quarters.

Buddleia variabilis magnifica.—Plant out fresh rooted stock of this desirable plant which has been grown on in pots. This variety is particularly adapted for covering walls or for grouping in the shrubbery. It has also a pleasing

effect when planted in the herbaceous border, cutting it back annually in spring.

Chimonanthus fragrans should now be spurred back, so that fresh and well ripened shoots may be produced for next season's flowering. Although not always fortunate in escaping severe frosts, its peculiar yet fragrant flowers are a source of delight during February and early March.

Herbaceous Borders should now be forked over and cleared of any protecting material used during the winter. On light, gravelly soils a heavy surface dressing of well rotted leaf-mould or cow dung should be given, and this will prove of inestimable value to many of the less robust plants should the summer be hot and dry.

Violets.—Plants flowering in frames during the winter should now be lifted, and strong single crown runners taken off and planted in a partly shaded border. Incorporate plenty of well decayed dung and leaf-mould with the soil. Plant the runners in lines 15 ins. apart and 12 ins. apart in the rows. Keep a sharp look-out for signs of red spider on the young plants, and spray in the evening with soot water on its appearance.

Lawns.—Growth is now noticeable on lawns, so have them well swept and rolled in readiness for the use of the mower. Edges may with advantage be pared now with the edging-iron, as this facilitates the work of clipping during the rest of the season. Return any bare patches, or should there be difficulty in obtaining fresh turf, sow lawn grass seed and give a dressing of sifted soil to assist germination.

JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

GREENHOUSE AND CONSERVATORY.

Celosias in successional batches are very useful for furnishing the greenhouse throughout the summer and late autumn months. It is true that *Celosia cristata*, the Cockscomb, is not by any means a graceful plant; still, it always attracts attention on account of its extraordinary form. On the other hand, the variety *pyramidalis* is certainly more graceful, and well grown plants last a long time in good condition. In growing *Celosias* it is very important to get a good strain, for, in the case of this plant, no amount of good cultivation will improve a poor strain. Here I may say the same applies to Balsams: hence the importance of getting seed from a firm of repute. If not already done, the first batch of *Celosia* seed may now be sown in a temperature of 50° to 60°. When large enough to handle the young seedlings should be picked off into pots or pans, until they are large enough to be potted off singly into small 60-size pots, using a light rich soil during all the stages of their cultivation. It is very important to keep them growing steadily on without any check. Their final potting should be into 5 in. or 6 in. sizes, while some of the tall growing varieties of *pyramidalis* if well grown will require 8 in. pots, in which they should make fine specimens some 5 ft. in height. They are subject to attacks of red spider and Begonia mite. The former can be prevented by a free use of the syringe, and the latter by the use of Campbell's sulphur vaporiser.

Winter-flowering Begonias, of the types resulting from crossing *B. scottrana* and the tuberous-rooted varieties, generally prove very troublesome to bring safely through their resting period. In this respect they differ from both parents, owing to the fact that they must never be really dried off altogether, but every effort should be made to retain a portion of their old foliage until they show signs of starting into fresh growth. They should do this during the month of April, and at this time they may safely be turned out of their pots and the balls of soil slightly reduced so that they can be repotted into the same size or even smaller pots, using for this purpose a light rich compost. When repotted they require very careful watering until they have made fresh roots; rather should they be encouraged to grow by frequent damping between the pots and light spraying overhead. In a moist genial temperature of some 55° they should grow away and in due course give good strong cuttings. Cuttings that were struck late last year may be grown on for flowering, such examples usually making fine large plants. A few of the best varieties are *Optima* (this in some ways the best of them), *Exquisite*, *Emita*, *Fascination*, *Elatior* and *Mrs. Heal*. There are several double and semi-double varieties, but in the immediate neighbourhood of London it is useless to grow them, as one night's fog is sufficient to strip them of every flower.

Vallota purpurea.—For some obscure reason one seldom sees this beautiful plant in good condition in gardens, whereas fine specimens in perfect health are frequently seen in cottage windows. This plant very much resents frequent disturbance; thus, when well established and in good health, it should be left severely alone, except for detaching some of the numerous offsets it produces so freely. If it is desired to increase the stock the largest of them may be potted up, putting three or four bulbs, according to size, into a 5 in. pot. The plant is really evergreen and should never be dried off entirely, although during the winter months it should be kept on the dry side. At this season, however, they will require more water at the root. They should not at any time be given a high temperature; a cool greenhouse, or a frame from which frost is excluded, suits them very well.

Nerines should be given a light position well up to the glass in a cool house or in frames. They should, by watering and feeding, be encouraged

to retain their foliage in a fresh condition as long as possible, for it is only by this means that good results can be expected from them. As their foliage shows signs of dying off, water should be gradually withheld, finally leaving them exposed to the sun, without any water at the root until August and September, when they should flower and commence growing.

Lobelia tenuior.—This beautiful *Lobelia* should be grown in successional batches for the greenhouse. Being of a slender habit it is best grown four in a pot, and it makes a better plant if it is pinched once or twice in its young state. If grown on into 6 in. pots really fine specimens can be produced, but it is by no means the easiest of annuals to do really well and requires careful watering at all times. However, it is really worth some extra attention, as good blue flowers generally find plenty of admirers. It is best grown at all times in a cool greenhouse, or low pit, where it can be kept well up to the glass.

Royal Botanic Gardens, Kew.

J. COULTS.

PEAT PLANTS THAT WILL DO IN LOAM

Given a lime-free soil and situations suitable to the particular species, there really are very few hardy plants which require peat for their successful cultivation.

SETTING aside the Heaths, Azaleas and Rhododendrons, there are many plants usually listed as peat-lovers which will do admirably in ordinary, but cool, lime-free woodland loam, with the help, in a few instances, of a little leaf-mould.

Take, in the first place, the so-called *Andromedas*. Some half a dozen of the more lowly species, among which may be specially mentioned *Zenobia speciosa*, *Leucothoe Catesbaei* and *acuminata*, have taken kindly to the above conditions here and annually reward us by wreathing their elegantly curved stems with their large waxen bells. The true *Andromeda polifolia*, the bluish foliage of which harmonises so pleasantly with its purple flowers, is also quite at home in the half shade of the thin woodland. When it is possible to do so, all these are so planted that they are in a line with the eye, otherwise the flowers, which are generally suspended underneath the branches, are not seen to best advantage. The most severe drought does not appear to affect these shrubs, once they are fairly established; and no pruning is ever done beyond cutting out old flowering wood, which has a habit, possibly a natural one, of dying back.

With *Cassiope tetragona*, however, I admit we have had some trouble. New plants have flourished for a season or two, studding their curious Club-moss stems with Lily of the Valley flowers, and then languished. What this fascinating little thing asks is doubtless a uniformity as well as a sufficiency of moisture, not only at the roots (which must have perfect drainage), but in the air, along with partial shade. But even in a garden of moderate dimensions one is generally able, by trying different sites, to hit upon the peculiar requirements of a plant without those requirements being always apparent. Thus our latest colony of *Cassiope*, in a hitherto untried situation, is showing sufficient promise to encourage efforts with its lovely relation *fastigiata* and others.

Of the *Pieris* group, the well known *japonica* and *floribunda* flourish like the proverbial "green bay tree," the former rather too well for its blossoming reputation. But, good as these are, the gem of the genus is undoubtedly *P. formosa*, which went away from the first, making a sturdy bush of some 5 ft. in height. Though not tender, this splendid species has given disappointment, or perhaps I should say has, with some, earned a reputation for disappointing, owing to the belief that its flower buds, if not the blossoms, are apt to be injured by frost in the early months. Our

experience is, however, that this is a very variable plant in regard to its date of blooming, the large sprays of big white globes appearing at any time from January to May, but usually not until they are fairly safe. Moreover, these flowers are, unlike those of the other species mentioned, nearly always so produced that they derive considerable shelter from the overlapping Rhododendron-like leaves. The wonderful colour and gloss of the new growths, a highly burnished coppery-crimson, are in themselves sufficient to give *P. formosa* high rank among the best of shrubs.

The true *Ledums* we have not had long enough to justify one making any definite declaration as to their adaptability to (comparatively) "dry" treatment, but *L. latifolium* certainly promises great things growing in loam at the foot of the Heather slope. Of *Leiophyllum luxifolium*, however, which comes near to these, we have nothing but admiration. It is an easy-tempered, healthy little shrublet, doing well almost anywhere. Its close-set foliage of small Myrtle-green leaves is speckled with bright red buds throughout early spring, these breaking into white flowers in April or later. Not unlike this to the casual glance is *Gaultheria trichophylla*, rather more "trailing" and more fastidious as to its growing medium, but one nevertheless which will thrive in a cool bed of leaf-soil and gritty loam. It appreciated a top-dressing of the same material in spring, and for this responds the more generously with its big turquoise berries, beloved of birds or mice—probably both. Of the other *Gaultherias* grown here, *nummularioides* is admirable at all seasons, sliding down a mossy slope, rooting as it goes, with *Linnaea borealis* for company and *Cornus canadensis* hard by. *G. Shallon* is perfectly content in the plain loam and does not grow too big; and not less satisfied are *procumbens* and *pyrolaefolia*, though the former is often slow to take hold. All these *Gaultherias* appear to like growing in association with something else, even if this is the natural thin herbage and creeping Ivy of the woodland bank, and they languish, as if from sheer loneliness, when isolated in the orthodox bed. This applies no less truthfully to *Galax aphylla*. A few odd roots of this "stuck in" among a drift of fallen leaves and native Ferns and forgotten have made a large colony, whereas those planted in the rock garden and elsewhere with the utmost care as to soil and aspect have remained about the same size for years. Grown well in suitable surroundings *G. aphylla* is a precious possession, beautiful at

all seasons, and fit associate for the stronger Shortias and other good things after their kind.

Like some dwarf *Euonymus*, a plant of *Pachystigma Canbyi* occupies a partially-shaded spot near *Epigaea repens*. This was very slow to start, as many of these things are, but if they are right who say it needs full exposure one error at any rate is in the situation. *Philesia buxifolia* may also be counted among the extremely cautious, and whether it will like its bed of leaf-mould and sand remains to be proven. It is certainly doing as well as many another specimen seen in the choicest of peat. Near this rather exclusive Chilean is a ramping mat of *Polygala Chamæbuxus*, both yellow and purple, which is in flower nearly the whole year round and which would be much more colourful did the mice not devour its bloom buds so persistently. Pretty and cheerful as this indispensable little woodlander always is, it can be secured in many forms, some being much superior to others in flower and foliage. *P. Vayredæ* is a dwarfier, but even more brilliant species requiring rather more sun and consideration in choice of situation.

The *Kalmias* do satisfactorily in a cool, shaley loam with the aid of a little leaf-mould. *K. latifolia*, best and biggest of the group, planted in that medium some years ago has seldom failed to flower, though it has hardly ever had any attention since. Not less beautiful is *Rhodora canadensis* which is covered with its gay little rosy-purple flowers before the end of March, and these seem to be able to withstand the most inclement of spring weather undisturbed. Our common Bog Myrtle (*Myrica Gale*) is quite happy in loam which does not dry-out too severely, and it is well worth a place for the sake of its fragrance. Though not a woodland plant, it will do in thin shade. Of *Vacciniums* I can say little, these wood and moorland shrubs not having been tried to any extent; but *V. corymbosum*, excellent in spring and autumn, and probably one of the best, is satisfied with our treatment, and the common *V. Myrtillus* (Bilberry) flourishes naturally in pure loam—and very dry rocky loam, too—in the woods near by. *V. Vitis-idea*, our native Cowberry, a better garden plant than the Bilberry, will also prosper under similar conditions.

Whether *Itea virginica*, a shrub of quite another order—a Saxifrage—will eventually reward us time will show, it being still in early youth, but it seems probable to judge by the progress it is making. After all, much of the delight of gardening is having things on the "waiting list," and one that is just emerging from that state by producing a cluster of pendent buds above its finely-cut foliage is *Bryanthus erectus*. *B. pilosa* (ferruginea) is also in this happy condition, and these twain, together with *B. cuspitriformis*, which makes fine mats and blooms abundantly (usually twice a year), are growing in a poor, crumbly mixture of shaley soil (mostly chippings) with a very little leaf-mould forked through at planting time.

North Wales,

A. T. JOHNSON.

Practical Gardening.—Though it gives no idea of the magnitude of the book, "Practical Gardening" is a fortunate title for this six-volume gardening encyclopedia. Many of the most eminent of present-day gardeners have contributed to the book, which appears to deal with every conceivable subject of interest to the garden-loving public. The work is copiously and, generally speaking, helpfully illustrated, but it is,

"Practical Gardening for Pleasure and Profit," edited by Walter P. Wright, The Educational Book Co., 17, New Bridge Street, E.C.4.

of course, the letterpress which is most important, and this is, on the whole, very satisfactory. Barring an opening chapter dealing with garden tools which seems rather purposeless, the essentially practical chapters are excellent, although the writer does not care for the sections dealing with garden planning and rock garden construction. This is a small blemish on a work of this character, for it is safe to say that few who would buy such a book would expect garden planning to be treated of. All the species of plants commonly met with in gardens are referred to, but the book makes no pretence to be a gardening dictionary.

Late Autumnal Flowers.—The specific name "syriacus" suggests that that shrubby Mallow *Hibiscus syriacus* is a native of Syria. It is, however, a wild plant of China and India, being only met with in Syria as a cultivated shrub. A free-flowering bush, in gardens where a selection of named varieties are grown these *Hibiscus* are one of the most valued autumn shrubs. They thrive in British gardens in all but the coldest positions, and in these localities they are worth giving favourable and sheltered positions against a south or west wall. Forming shapely and much branched bushes up to 8ft. or 10ft., sometimes more. Pruning is not desirable unless the positions where the shrubs are growing makes it necessary to limit their size. When this happens, prune in March or early April. The *Hibiscuses* thrive in most garden soils which are well drained. They benefit by the trenching and manuring of the ground previous to planting, and a mulching of decayed manure and leaf-mould may be given about midsummer with advantage. Cultivated in our gardens for more than three hundred years, a considerable number of varieties are grown with both single and double blossoms. Six of the best are *Cælestis*, purplish blue, single; *Hamabo*, bluish white, crimson base, single; *pulcherrima* white, crimson base, double; *punicus*, red, double; *Souvenir de Charles Lebreton*, lilac purple, double; and *totus albus*, pure white, single.

Dividing Border Chrysanthemum Stools.—Ofttimes it is not practicable or convenient to lift and store border Chrysanthemums through the winter months when the flowering period is over, but when re-making the borders it is found necessary to divide the plants up. The stool should be carefully lifted by means of a fork, and pulled apart with the hands, if this be possible. Failing this, two hand forks may be inserted together, back to back, and the stool levered apart, or in the case of a very stubborn stool a large pruning knife may be called into use, though it is preferable not to cut the roots more than is absolutely necessary. It is best to discard the centre, or older portion of the stool, retaining the younger and more vigorous outer portions, which can then be replanted in such a way as suitable. The best effect is obtained by planting three or five of these portions about 6 inches apart each way, thus forming a nice-sized clump in the border convenient for staking when growth is made.

FORTHCOMING EVENTS.

April 19.—Hertford Horticultural Society's Meeting.

April 20.—Manchester and North of England Orchid Society's Meeting. Midland Daffodil Society's Annual Exhibition (two days).

April 21.—Paisley Florists' Society's Meeting. Eastbourne Horticultural Society's Meeting.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

VIOLETS ATTACKED (H. M. W., Radnorshire).—The Violets are attacked by the leaf spot fungus (*Phyllosticta violæ*). Remove as far as possible all diseased leaves and spray the plants with liver of sulphur, 1oz. to 3 gallons of water, or dust them over with flowers of sulphur.

ANTIRRHINUMS ATTACKED (D. W., Suffolk).—The *Antirrhinums* are attacked by a fungus, which seems to be spreading rather rapidly during the past few years. It would be well to destroy the first plant showing the brown spots on the leaves and stems so as to stop its spread another year. Little can be done to much purpose now except to get rid of as much of the infected material as possible and to spray the rest of the plants with a solution of sulphide of potash, 1oz. to 3 gallons of water. We suspect that the Sweet Williams are not attacked by the same trouble but by another fungus belonging to the rusts and for this the removal of diseased parts and the spraying of the remainder with a rose-red solution of potassium permanganate is best.

ROSE GARDEN.

ROSE SPECIES FOR A LAWN BED (Woodvates, Wilts).—Under suitable circumstances the bush Roses as mentioned by our correspondent might be arranged to show the general effect from the windows or front door of the dwelling house, but the situation of the latter is not shown on the plan sent. The bed is also somewhat irregular in shape, and because there is grass all round it, the best plan would be to plant the tallest Roses in groups along the centre, so that the view from all sides will be the same. The situation is open so that the Roses will develop and bloom on all sides equally. They may be planted in groups of three, five or other number as our correspondent thinks fit. If the soil is good it would be well to give a space of 4ft. between every two of *Rosa sericea pteracantha* (6ft. to 12ft. high), *R. Pratti* (6ft. to 8ft.), *R. Moyesii* (6ft. to 10ft.), and *R. rubrifolia* (5ft. to 7ft.). There is a white *Polyantha* Rose named *Hélène* (6ft. to 10ft.) which should also be central or in the middle of the bed. *R. nitida* and *R. n. flore pleno* grows only 2ft. to 3ft. and should be near the outside. Other Roses we would suggest are *R. Hugonis* (5ft. to 8ft.), *R. alpina* (6ft. to 8ft.), *R. alba* (6ft. to 8ft.), *R. spinosissima altaica* (3ft. to 6ft.), *R. cinamomea* (6ft. to 9ft.), *R. lutea* (3ft. to 5ft.), Sweet Briar (*R. rubiginosa*, 4ft. to 8ft.), and *R. rozosa* or any of its varieties (4ft. to 6ft.). All of the above should be planted 4ft. apart, except *R. nitida*, *R. Hugonis* and *R. alba*, which grow erect. The others we suggest are more spreading as they get large and it would hardly be possible to get into the individual groups without thinning or shortening of the shoots, which would spoil their natural beauty. Of course, if planted thickly they keep one another more erect. Bearing in mind last year's drought, we should prefer to plant in the autumn.

THE GREENHOUSE.

BEGONIA OPTIMA UNSATISFACTORY (R. W. D., Basingstoke).—We find no disease in the *Begonias*. It is possible that the soil is sour and that the roots have suffered from this cause, when in spite of watering nothing could be done to save them. Avoid over-potting and use fresh soil in future.

TREES AND SHRUBS.

SUITABLE TREES TO PLANT ON A GRAVE IN FRANCE (E. E. B., Surrey).—If our correspondent can get a tree of the Japanese Maple (*Acer palmatum dissectum atropurpureum*) in a pot, it could be planted in the Arras district early in May. If taken from the ground then it would be starting into growth, and the lifting would cripple it. If obtained now and potted up our correspondent could take it to Arras in the pot and replant it without disturbing the soil. Well water it the day before turning it out of the pot, or the day on which leaving this country. White flowered shrubs that would be suitable are *Philadelphus rosæ* (3ft.), *P. vici lactæ* (3ft.), *Olearia Haastii* (evergreen, 3ft. to 4ft.), *Viburnum plicatum* (3ft.), and *Hydrangea paniculata grandiflora* (3ft. to 4ft.). Whichever of these are decided upon, it would be safest to pot it up now.

MISCELLANEOUS.

THE IRIS LEAF MINER (A. E. C., Pa.).—This is the grub of a small two-winged fly, *Agromyza atea* (A. iræos). It attacks various Irises, but especially perhaps *I. ochroleuca*. Another species, *A. latorella* is reported a serious pest of *I. Kampferi* in New Jersey. The female fly deposits her eggs on the leaf and the grub burrows in, feeding on the soft tissue of the leaf, and later becoming a pupa in the burrow. Where only a few leaves are attacked they should be cut off and burned, or the foliage should be cut down and burnt in a tannin. Spraying with nicotine soap emulsion would probably kill the larvae in the burrows so long as the spraying was not put off too long. In England a small green parasite kills many of these grubs.

NAMES OF PLANTS.—L. J. G., Ireland.—Probably *Narcissus minimus*. The specimen sent was absolutely shrivelled up so could not identify correctly with certainty.

CATALOGUE RECEIVED.

Grace Sturtevant, The Glen Road Iris Gardens, Wellesley Farms, Massachusetts.—Irises.

ORCHARD

GARDEN

WOODLAND

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No. 2631.—VOL. LXXXVI.]

[APRIL 22, 1922.

COLOUR IN THE ROCK GARDEN

ROCK plants, especially those properly classed as alpine species—not confining the word "alpine," by the way, to the European range we call the Alps—are readily established at almost any season, since they are supplied in pots. This notwithstanding, the present is a particularly

good season to purchase, as many sorts are readily propagated shortly after blossoming.

We will endeavour to point out the species and varieties most worthy of cultivation and their individual requirements as to "exposure," soil, and such like. Almost every gardener, reading "showy and accommodating plants" will

have mentally envisaged the varieties of *Aubrieta deltoidea*, *Arabis albida*, *Alyssum saxatile* and *Iberis sempervirens*, and assuredly, these four species form, as it were, the very foundation of a showy rock garden.

To select the best varieties of *Aubrieta deltoidea* is not easy, but the following cover the full range



A FINE EXAMPLE OF HAPPY PLANTING IN THE ROCK GARDEN.

of colour and are all first class; D. Mules, with deep violet-purple flowers, is, though quite an old one, still the best of its colour. Among the "crimson," Fire King and Leitchlinii are recommendable; there is no better soft rose than Moerheimi, while Bridesmaid, bluish-white, is very neat and extends the colour range. There are numerous lavender sorts, but none, so far, so effective as the very old græca. For those who like "new friends" we would recommend Lilac Queen, Lloyd-Edwards (a very large-flowered violet-purple), and Violet Queen.

As regards *Arabis albidæ*, both single and double forms are often useful for places where little else will grow, and the single one, though it spreads rapidly, is more compact and less straggly than the double one.

The soft pink *Arabis aubrietoides* is, though quite easy, an infinitely choicer and more beautiful plant than either.

There is a variety of *Hieris sempervirens* called Little Gem, which is in habit of growth quite compact and globular, and is both neat and beautiful. Still, for "bold" effects the typical plant, or the closer-growing Snowflake, is very useful.

Alyssum saxatile, as one of the brightest and most cheering spring flowers—its yellow has that dash of orange in it which gives "warmth"—may be more freely used. There is a desirable closer-growing form—compactum—a very lasting double form, and an entirely pleasing lemon-yellow variety called citrinum. The saffron-yellow *A. gemmonense* is a useful plant often confused with the last-named *Lithospermum prostratum*, with its flowers of purest gentian-blue is an excellent plant, also the pretty azure blue variety Heavenly Blue.

Some of the brightest masses of colour in the rock garden are produced by the varieties and hybrids of *Phlox setacea*, and remembering that it is "colour" we are seeking, let us first select Vivid best described as "hot salmon" colour a wonderful sight when in flower; G. F. Wilson (syn. lilacina), slate blue; compacta, rose with very little blue in it, and The Bride, a beautiful pearly white. Other good varieties are Brightness, Kathleen and Daisy Hill, all rose-coloured sorts; Fairy, a compact-growing, neat plant, with greyish lilac flowers, and Newry Seedling—in the way of G. F. Wilson but paler and of a looser habit of growth.

All the foregoing suffer from biting winds in winter and are best planted with shelter from the north and east and with a warm exposure, so that they may ripen their wood. They should be propagated by division or from cuttings. Either operation should be performed as soon as they start to make fresh growth after flowering.

Phlox amena, a pretty, early-flowering, rose-coloured species with numerous androsace-like heads of bloom, makes a brave show; so, too, does the taller-growing *P. canadensis*,



A CHARMING COLONY OF ONE OF THE HOOP PETTICOAT DAFFODILS (*N. BULBOCODIUM CITRINUS*).



THE LADY'S SLIPPER (*CYPRIPEDIUM SPECTABILE*).

with pretty, slaty-blue flowers. The variety *Laphami* is, perhaps, the most recommendable; its flowers are sounder and a shade deeper in colour than those of the type. There is also a pure white form.

Phlox ovata, something like a dwarf rose-coloured *Border Phlox* (*P. decussata*), with neat and leathery ovate foliage, is also useful, and easy, for not too choice a corner.

The double form of *Lychnis Viscaria* gives a mass of dazzling rosy-carmine, while its neat, sturdy habit makes it very suitable for the rock garden; but, like the *Crimson Rambler Rose*, it is somewhat of an *Ishmael* in the garden, owing to its propensity for making even really bright flowers look dowdy.

The *Welsh Poppy* (*Meconopsis cambrica*) is a very "easy" plant and, especially the double form, very showy and beautiful. Their distant cousin, the smaller *Bleeding Heart* (*Dicentra eximia*), with its pretty lacinate foliage and purplish rose flowers, should also be included.

Of the Pink family (*Dianthus*), the following are of easy culture and beautiful: *D. atrorubens*, with dark grassy foliage and deep red glomerate heads after the way of the *Sweet William*; the *Cheddar Pink* (*D. cæsius*), rose-coloured, very fragrant; *D. fragrans*, deeply fringed creamy flowers with a powerful and pleasing odour; *D. superbus*, which might almost be described as a rose-coloured form of the last.

Of a totally different habit of growth to those previously mentioned, and rather later flowering, the *Maiden Pink* (*D. deltoides*) and the closely related *D. graniticus* are two useful small-flowered deep rosy-red kinds, very floriferous, and with neat glossy dark green foliage.

Two double garden hybrid forms, *Salmon Queen* and *Napoleon III.*, are also beautiful and of striking coloration. The latter is a very brilliant crimson, but, if not carefully handled, has a tendency to flower itself to death.

The prostrate *Gypsophila* (*G. repens*), with its pretty glaucous trailing foliage, star-bespangled, must on no account be overlooked. The form *monstrosa* has larger flowers and less trailing habit, and *rosea* has pale rose flowers with the habit of the type. Another pretty species is *G. Sundermanni*, with bright lilac-rose flowers.

Owing to their very trailing habit of growth it will probably be better to separate the *Sun Roses* (*Helianthemum*) from their cousins, the *Cistus*, and deal with them in this section. They are, without exception, beautiful and gay-coloured plants, with pleasing foliage, quite unexact as to soil, but liking plenty of direct sunlight. All the kinds are worthy of cultivation, but we have a partiality for *Mrs. Croft*, *Salmon Queen*, *Brilliant* and *Rose Queen*, and in general the single forms are preferable to the double ones.

Two species of *Speedwell* (*Veronica*) come into this class—*V. repens*, with masses of slaty-coloured flowers, and *V. rupestris* (syn. *prostrata* and *Tencrium dubia*), with masses of bright blue flowers in zinc spikes—a very old and very beautiful plant. There is a white form of this species, also a yellow foliaged one (*Trehane*).

A very beautiful plant for a sunny corner is *Helichrysum bellidioides*, a quickly spreading species, with grey foliage and white immortelle-like flowers most profusely borne.

Many of the alpine species of *Silene* make a brave show, and two of them are extraordinarily accommodating, these being *S. alpestris*, with glistening snow-white flowers, and *S. Schafta*, producing purplish rose flowers at mid-summer. There is a tiny *Golden Rod*—*Solidago prostrata*—which makes a welcome splash of colour very late in the season. Some of the prostrate *Thymes*

are among the loveliest of creeping rock plants, such are *T. lanuginosus*, forming patches of silky grey foliage, and which is rather disfigured than otherwise by the pink blossoms; *T. Serpyllum coccineus*, with bright crimson, and *T. S. albus*, with white flowers. These two should sometimes be planted together, as the combination is very pleasing.

Many of the *Campanulas* are among the most amenable and beautiful of rock plants. Very good and easy are all the forms of and crosses between *C. carpatica* and *C. turbinata*, as are *C. barbata*, *C. sarmatica*, *C. pusilla* and varieties, and *C. Portenschlagiana* (syn. *C. muralis*).

In a shady corner, even under trees, the *Astrantias* will succeed. These are among the most beautiful and refined of umbelliferous plants.

An effective plant for sun-parched slopes is the *Rock Purslane* (*Calandrinia umbellata*). Its crowded blossoms are a fiery magenta-crimson.



BOLD PLANTING AND ITS EFFECTIVE RESULTS.

This is not a long-lived plant, but is, fortunately, easily raised from seed.

A very showy, if rather coarse habited class of hardy trailing foliage plants, is the *Mouse-eared Chickweed* (*Cerastium*). Quite the best with silvery foliage is *C. tomentosum*, smothered, in spring, with fair sized white flowers reminiscent of the *Greater Stitchwort*.

Useful plants for crevices in the rock cliff or for dry walling are the alpine *Erinus* in three colours, the typical plant with reddish-purple, albus with white, and carmineus with rosy-carmine flowers. For the same purpose, too, we have the pretty golden *Hedge Mustard*, *Erysimum pulchellum* (syn. *rupestre*).

Just a few of the smaller *Torch Lilies* (*Kniphofia*) are suitable for the rock garden, and give a much to be desired variety of form, such, for instance, as *K. paniciflora*, with yellow, *K. Macowanii*, with pinkish-coral blossoms, and *K. corallina*, with almost scarlet spikes; while, for the larger background, *K. rufa*, and even stronger-growing kinds may be made use of. It is scarcely necessary to mention that all *Kniphofias* need protection from hard frost, particularly frost following wet.

The perennial *Flaxes* are useful for the rock garden, especially the dwarf *Linum alpinum*, but even the species of *L. perenne*, or *L. narbonneuse*, will look in no way out of place.

For the shadier positions some of the *Monkey Flowers* (*Mimulus*) are very suitable; such are *M. Burnettii* and *M. cupreus Brilliant* with bronze, *M. cupreus Coronation* with carmine, and *M. cupreus Scarlet Queen*, a variety with almost scarlet flowers.

Aster alpinus is quite a showy plant, and there are several excellent varieties of various shades of colour. Among the *Yarrows* (*Achillea*) are to be found several carpeting plants with grey foliage and pleasing flowers. Among the best may be mentioned *A. argentea* and *A. Huteri*, with grey, and *A. Kellereri* and *A. rupestris*, with green foliage; all of these have white flowers, while *A. tomentosa* is a free-flowering yellow species.

Of the *Bugles* (*Ajuga*), the only ones really worth growing are the beautiful blue *A. Brockbankii*,

and perhaps the prettily variegated *A. reptans variegata*. Two of the *Sandworts* (*Arenaria*) should be found in every rock garden—the glorious white trailer, *A. montana*, and *A. balearica*, which covers the stones with minute trails of bright green foliage studded with tiny starry blossoms. The habit of the last-named plant recalls to mind that beautiful minute-eling *Willow Herb* (*Epilobium Hectori*), with bronze foliage, inconspicuous flowers and cottony seedpods.

Some of the *Ethionemas*, especially *A. pulchellum* and *A. grandiflorum*, are mass effect plants, and planted with a south aspect, or, better still, built into the joints of the cliff face, so that their crowns lie sideways, in nice gritty soil, will flourish. A newer very beautiful form is *A. armenum Warley Rose*. *A. coridifolium*, sometimes confused with *Iberis jucunda* is worth growing with its neat habit and grey-pink flowers.

The plants dealt with above have, except for a general liking for a well drained sweet soil, and, sometimes, a partiality for some particular exposure, required no special cultural attention. They do not, of course, exhaust the list of desirable plants for the rock garden.

DISTINCTIVE TREES AND SHRUBS

Now that economy in the garden is the order of the day, the planting of trees and shrubs is on the increase. The following article furnishes suggestions of beautiful ornamental trees and shrubs which should find a place in the average garden.

A TREE may be distinctive on account of its flowers or leaves, or both. It will also appeal to the imagination if uncommon or scarce; and those who love trees for their own sakes will give these their due consideration and attention if they succeed in their gardens or grounds under the conditions available. Trees of unusual dimensions are the pride of their owners, even if common, but much more so if they are rare. Those I intend to discuss are not notable for great size, but possess some outstanding characteristic that makes them desirable in gardens of moderate dimensions.

The Maidenhair Tree (*Ginkgo biloba*) makes a spire, erect tree that may ultimately reach a great

succeeded by three-angled seedpods that remain on the tree for some time after the leaves have fallen, and being 1½ ins. to 2 ins. long are highly conspicuous. Trees 12 ft. to 30 ft. high flowered very freely in 1911 and 1921. They flower more regularly in France, where the summer is warmer than ours. The Sweet Gum (*Liquidambar styraciflua*) resembles a Sycamore to some extent, but is of narrow, upright habit and becomes highly conspicuous in autumn when the leaves assume their crimson and orange hues. The crimson and golden tints of the dying leaves of *Parrotia persica* are the special feature of this tree; but the red anthers of the flowers make the leafless tree conspicuous on sunny days during February or March, so that it ranks as a late

on the outer face, white on the inner, and often 4 ins. long and as broad. As they are fleshy in character they form a massive and shapely bloom. This hybrid is said to have arisen by chance, so that the second parent may have been *M. obovata purpurea*. The most popular of these hybrids is *M. Soulangeana*, which may be seen in many gardens, where it is the most conspicuous object during late March and April.

The Laburnums are delightful trees when they come into bloom. A natural variety, named *Laburnum vulgare Alschingeri*, has racemes of flowers 9 ins. to 12 ins. long and flowers very profusely, making a handsome tree. When growing vigorously, *L. Vossii* has racemes twice as long. It is a hybrid between the common and



THE FREE FLOWERING JAPANESE CRAB (*PYRUS MALUS FLORIBUNDA*).

height, without casting much shade on other objects, and withstands smoke well. The two-lobed leaves, both in form and venation, bear a strong resemblance to the lobes of the fronds of a Maidenhair Fern. Indeed, a Japanese botanist some time ago discovered that it is intermediate between the Ferns of geological times and conifers. Several species of *Ginkgo* at one time existed from the Island of Mull to China. Now the above is only known as a planted tree in the vicinity of Chinese temples, and the trees cultivated in the old and new worlds are descendants from them. The soft uniform yellow of the dying leaves in autumn is very handsome.

Koe'reuteria paniculata is related to the Horse Chestnut and Sycamore, but has much divided leaves and large panicles of small yellow flowers,

winter flowering tree. Last year's sunshine made it bloom profusely everywhere this year. In summer it bears some resemblance to a Beech. The Kentucky Coffee (*Gymnocladus canadensis*) appeals to us entirely by its leaves, which are bipinnate, or twice divided, and may reach a size of 3 ft. long and 2 ft. wide. The habit of the tree is stiff and ungainly when the leaves are down, but the few trees in cultivation are highly cherished by tree-lovers. The Mop-headed Acacia (*Robinia Pseudacacia inermis*) seldom, if ever, flowers, but is prized by the owners of suburban front gardens, where the short, twiggy growths take up but little room, and do not darken the windows.

The finest of all the series of hybrids between *Magnolia conspicua* and *M. obovata* is *M. Lennei*, the petals of which are of a beautiful rose-purple

Scotch Laburnums. Neither of the two have so gracefully arching branches as the Common Laburnum, but the latter is often spoiled by pruning and lopping in confined situations, so that its natural beauty in those cases cannot be seen. Laburnums produce a wealth of spurs that bloom year after year if left unpruned.

The Cotoneasters vary much in habit, so that it is well to select positions for each, where it can assume its natural habit of growth. *C. horizontalis* is often planted against a wall, but nowhere does it look more natural than in an open situation, such as a circular bed on the grass. The branches grow out horizontally in all directions a little way above the soil, and sometimes a strong branch will rise higher and then spread out again, forming a higher table of densely leafy branches.



THE SNOWY MESPILUS BACKED BY EVERGREENS.

The berries hang on for many weeks after the leaves have mostly dropped.

A relation of the Horse Chestnut, namely, *Xanthoceras sorbifolia* has leaves somewhat resembling a Mountain Ash, and a profusion of white flowers. Unfortunately, these sometimes get injured by late frost. It flowers with more certainty when trained upon a sunny wall, and is an excellent plant for forcing in pots. The fruits are like the Horse Chestnut without the prickles.

The handsome *Prunus triloba* does not appear to be known in the single state, for the pale rose flowers are double, and though the young fruits appear to set, they soon fall away. The small tree is really an Apricot. It may be grown in a variety of ways, and is effective as a group in a large bed, where it may be kept dwarf by pruning it hard after it has done flowering. It will cover a wall 10 ft. high, and if the side shoots are hard cut back after flowering a succession of flowers in the greatest profusion may be had every year. It is also an excellent plant for forcing.

Of exceptional beauty are the Birches, with their graceful branches and peculiar trunks. These trees deserve to be planted to a greater extent than they are to-day. The silvery trunks of some species are a notable feature of the garden during the winter months.

Our native Birch (*Betula verrucosa*) is exceptionally beautiful. Some species have darker and more rugged trunks than others, but, nevertheless, they have a charm which is quite their own.

The Birches are deciduous and bear unisexual flowers, which are produced on catkins. Male and female catkins are borne on the same tree. They are formed in autumn but do not expand until the spring; therefore the Birches are never without some attraction. Many of the species are aromatic, which greatly enhances their value.

planting to choose a position where its flowers will show to the best advantage, against a background such as the evergreen Oak or Holly would provide. If planted in association with early-flowering shrubs, such as Almonds and double Cherries, the effect produced is extremely pleasing. The Snowy Mespilus is closely related to the common Medlar (*Mespilus germanica*), but the flowers of the former are smaller. The Snowy Mespilus is one of the daintiest and most profusely-flowered trees of spring.

It is not at all fastidious as regards soil and, in common with Thorns and the Bird Cherry may be found flourishing in our sandy woods. As it succeeds in all parts of the British Isles there can be no doubt as to its hardiness.

Cratægo-Mespilus Asnièresii is a small tree with pendulous branches which is deciduous. The name *Cratægo-Mespilus* according to Beau-

Pyrus Malus floribunda (Japanese Crab) is one of the most beautiful of all the flowering Crabs cultivated in gardens. The pale pink flowers are borne in great profusion from the end of April until about the middle of May. The trees average in height from 10 ft. to 15 ft., and as much or more in diameter. The variety *atrosanguinea* is much richer in colour and the two trees grouped together form a glorious floral picture. As a specimen plant for lawns, *Pyrus floribunda* is to be highly recommended both for large and small gardens.

The Snowy Mespilus (*Amelanchier canadensis*) is, when it is in bloom, so smothered with the profusion of its pure white flowers as to resemble a huge snowdrift in the distant effect. Flowering, as it does, during early spring, it is advisable when

"has been devised to distinguish three deciduous trees, one a supposed natural hybrid between the Hawthorn (*Cratægus monogyna*) and the Medlar (*Mespilus germanica*), the other two hybrids obtained by grafting the Medlar on the Hawthorn."

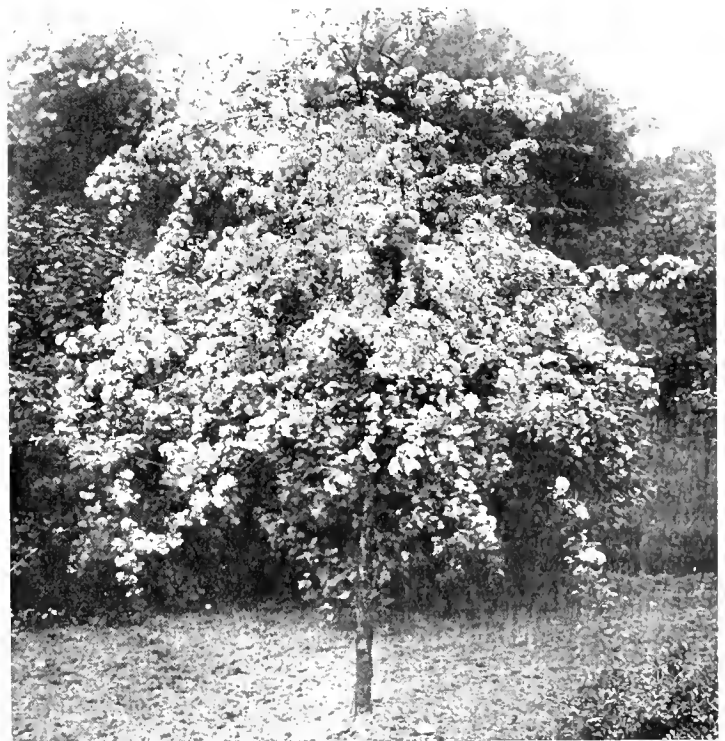
Cratægo-Mespilus Asnièresii in habit resembles a large-flowered *Cratægus* of semi-pendulous growth. A few spines are noticeable, and there are two kinds of leaves, some entire and the remainder deeply lobed, especially those on the vigorous young shoots showing the Hawthorn parentage. The leaves on both surfaces are very downy. The flowers are produced in clusters like those of the Hawthorn, but are larger, averaging 3 in. across, six to twelve, sometimes more, in a corymb, white, tinted rose with age. The fruit is brown in colour, oblong in shape and about the size of the Hawthorn. The flowering season is the latter half of May. This is a most desirable tree for gardens.

There are many beautiful trees which thrive under smoky conditions. It is best to plant deciduous trees as these shed a great quantity of the dirt with their leaves in autumn.

Fortunately there are some evergreens that stand these conditions fairly well. *Ilex Aquifolium* (the common Holly), and its glossy-leaved forms, is one of the best evergreens for a smoky district. The *Aucuba* gives quite good results in several places. *Berberis stenophylla* stands well under these conditions. *Berberis Aquifolium* and *Box* are also excellent plants. The common Ivy seems to flourish under the most unsatisfactory conditions, while its numerous tree forms also give good account of themselves.

Among deciduous trees the Plane undoubtedly has become famous for resisting the enervating effects of London smoke. The red-flowered Horse Chestnut grows very well under unsatisfactory atmospheric conditions; the same applies to the Ash. Among the *Pyruses* may be mentioned *P.P. floribunda spectabilis* and *Ringo*.

This by no means exhausts the list of desirable trees for gardens either large or small, but it should suffice to show the reader what a vast collection there is to choose from.



A BEAUTIFUL HYBRID: CRATÆGO-MESPILUS ASNIÈRESII.

SUMMER BEDDING PLANTS AND PLANTS FOR VASES AND BOXES

DURING the past eight years or so the stocks of bedding-out plants, generally used in the flower garden from June till October, have been in many cases almost entirely depleted. Numbers of them are again finding favour with cultivators, but where stocks are quite insufficient plants should be bought or supplemented by charming annuals.

Old plants of Zonal Pelargoniums, Fuchsias and Heliotropes should not be thrown away as by their judicious use a very charming display may be obtained at a small cost, as regards labour, in the flower garden. For a period of ten years I used the same old specimens—nearly one thousand of them—in a large garden with great effect. During the winter months these veterans were stored in gin and roin pots in Peach houses and vinerias from which frost only was excluded. In the spring new shoots grew freely but not strongly, and in consequence, flowered profusely in the summer. The specimens varied in height from 1ft. to 4ft. and were employed to form pyramids of not too formal shape. They entirely filled some small beds and looked very well with shrubberies as a background. The tallest plants were made secure to strong central stakes, the latter being hidden from view by the foliage, and the remainder, according to height, were then planted to form the pyramid.

Of course, each kind was kept separate and not mixed in the beds. The edgings to such beds may be of any dwarf-growing plant favoured by the cultivator. The majority of the beds referred to were edged with Echeverias planted face outwards in a ridge of wet soil and cow-mannure, mixed. When the mixture dried it retained its shape throughout the summer.

PLANTS FOR VASES AND BOXES.—The various plants required for these receptacles should be selected now and placed by themselves, not unduly crowded, so that they will be extra sturdy to withstand strong winds and show to the best advantage. The vases of pottery must not be painted, but tubs and boxes should be painted dark green or oak colour. Whether placed directly in front of a dwelling house or in odd positions, such as recesses between clumps of shrubs, beside the paths or on the open lawn they have a charming effect when properly filled. For the garden vase, one of the most satisfactory forms is the top section of the ordinary Italian oil jar. The jar ought to be cut a trifle below the bulge, as shown in an accompanying illustration.

There are two kinds of plants very suitable for planting in vases, namely, Fuchsias and Ivy-leaved

Pelargoniums. The former grow erect but gracefully, the latter, depending from the edges, are also very effective. The colours of the flowers should harmonise.

PLANTS RAISED FROM SEEDS SOWN IN SPRING.—Lobelias, Pyrethrums (Golden Feather), Petunias, Pansies, Marigolds, Tagetes, Nasturtiums, etc., must be transplanted in boxes, in beds, in cold frames or in temporary shelters prior to full exposure and final planting.

POTTING ZONAL PELARGONIUMS SINGLY.—As the plants are not placed in the flower garden before the first week in June there is ample time for them to get well rooted in small pots before that date, and specimens so treated are more easily

fairly large pots the latter may be buried in the soil without turning out the plants, just covering the rims with soil; from small pots the Liliiums may be planted out carefully.

CALCEOLARIAS.—Frequently many of these plants die soon after they are planted in the flower garden. I have found the cause to be, mainly, too late planting in the hot weather and burying the stems too deeply. Where it is convenient the Calceolarias should be planted in their summer quarters early in May. GEORGE GARNER.

DO NOT "DRAW" THE CHRYSANTHEMUM

Undue "coddling" is inimical.

I PARESAY many cultivators have noticed, late in the summer-time, plants with rather thin stems near the base and much thicker higher up. This is caused, mainly, through pampering the young plants—being too kind to them in their early stages of growth, thus unduly drawing up the stems under glass late in spring.

All late-flowering plants, propagated before, or soon after, Christmas, have to remain under glass longer than the others, so extra care should be taken with them. The majority of such plants are stopped late in March or during April, and, if their stems are weakly at this stage, the shoots following the stopping will be weakly, too, and time is much too valuable to be lost in this way.

To avoid having weakly plants place them in cold frames as soon as possible after they are established in the small pots. Rather than retain the plants in the warm greenhouse in a mild spring, or late winter-time, I transfer them to the cold frame in the month of February. Place the pots on a bed of ashes in preference to boards. For a number of years I sifted the ashes and used the fine ones on the top, but earth-worms entered the pots. Now, I still sift the ashes, but place the coarser ones on the top. This prevents the worms rising high enough to gain access to the pots.

Allow ample room for the plants to grow—overcrowding would cause weakly growth even in a cold frame. Close the glass lights for two days or so after placing the plants in the frame, afterwards ventilate freely except in bad weather. Put on some covering material at night if there is a frosty air.

The following varieties should receive special attention in this way: A. F. Tofield, Edith Cavell, General Petain, Louisa Lockett, Mrs. Algernon Davis, Mrs. G. Drabble, Mrs. M. Sargeant, Mrs. R. C. Pulling, Miss A. E. Roope, Peace, Princess Mary, Queen Mary, Shirley Golden, Victory and W. Rigby. G.



AN ITALIAN OIL JAR RIGHTLY PLACED.

transplanted and thrive better than those planted direct from the cutting pots or boxes. Of course, cuttings of these plants rooted in spring may be taken direct from the cutting pots to the flower garden.

TUBEROUS BEGONIAS AND LILIUMS.—Where the first named are grown in large numbers they are mostly retained in boxes, but by far the best plan is to place them in pots and to re-pot in due course if they are in small pots and becoming pot-bound. Too much shading should be avoided at every stage or else the leaves will be scorched when fully exposed to the sun. If the Liliiums are in

THE LONDON DAFFODIL SHOW

ACCORDING to the R.H.S. arrangements it should have been Daffodil Day at Vincent Square on April 11, but while societies may propose, the weather certainly disposes in such matters. The cold winds and general backwardness of the season made it one of the smallest Daffodil Shows that the Society has held. It was only the earliest and most favoured gardens that had any show blooms, but while the Daffodils were relatively few in number and mostly from Cornwall, and Waterford, Ireland, they were all of outstanding merit. The present-day show flower possesses a greatly increased substance which makes it a "better traveller" that lasts much longer when cut than is the case with its forbears, and also the purity of its colours is also greatly improved. Such flowers were to be seen in sufficient numbers for admiration, even though the competitive exhibits were few.

The chief prize-taker was Mr. J. L. Richardson of Waterford. He had no competitor in Classes 1 and 2, which are for thirty-six and eighteen representative varieties, and he was awarded the first prizes for really good collections. He showed a number of unnamed seedlings, and also Sirdar, Red Lady and Victory among the named sorts.

In the new seedling classes the Donard Nursery Company, Newcastle, Co. Down, won the Engleheart Challenge Cup with twelve varieties not in commerce, and the silver-gilt Flora medal with twelve seedlings introduced since 1914. One cannot enthuse over the cup collection, as, although good blooms, they were unnamed, but the other



THE NEW NARCISSUS "SILVER CHIMES." (AWARD OF MERIT).

exhibit was strong in the Trumpet section, of which Comely, Gog and Magog and that most useful of all large sorts, King Alfred, were very good.

Non-competitive exhibits were set up by several trade growers. In spite of the difficulties of the season, Messrs. Barr and Sons had a wonderful display for which they were awarded a gold medal. The exhibit included perfect blooms of all possible sections. Such large Trumpet varieties as Fantin Latour, Mustapha and Latona were equal to any in the Show. These are, of course, rather high-priced novelties, but there were plenty of all types at every-day prices. Ornement, a glorious Barri variety, is one of these, and so are Jaime à Merveille and Rembrandt, two useful Poetaz sorts.

Double Daffodils were in every collection, and Barr's had splendid blooms of Primrose Phoenix, which is perhaps, the best of them all. Irene Copeland, a large, shapely flower of paper white and primrose colour, and Copeland's Seedling were in the Donard Nursery group. The most distinct of the new doubles was Mrs. E. Martin, shown by Mr. J. C. Martin. This is said to be a cross between Gerrard's old Lent Lily and a Poeteus variety. It is somewhat like a thinly arranged Gardenia Daffodil enclosing short salmon petals. Gullrock on the same stand is a pale lemon and primrose double.

Phantasy (a pale cream Trumpet), Empire (a giant Leedsii) and Brilliancy (an Incomparabilis with a vivid corona) were very prominent in an exhibit by Messrs. Cartwright and Goodwin. Torch and Carnival are two others of brilliant coronas which were to be seen in several exhibits. Messrs. F. H. Chapman, Limited, had some choice

seedlings, but these, like Mr. Engleheart's giant Maximus varieties, were shown under seedling numbers. The decorative value of various Daffodils was illustrated by the Anglesey Bull Growers' Association, who massed various sorts in brown wicker-covered jars and vases.

Of the general exhibits the greatest interest seemed to be centred in Sutton's coloured Freesias. Not only were these in many new shades of colour, but were exceptionally fragrant for the type. Generally these new Freesias fail in this respect, but if grown in the cool greenhouse many are quite pleasantly perfumed. Mosette is perhaps, the best of all in this respect. For uncommon colouring the rose pink edged and yellow flushed La Charmante was most fascinating. Apogée is of perfect form, and the deep Golden Canary is also delightful.

Pleasing fragrance was also present in the large batch of Iris punila formosa shown by Messrs. G. G. Whitelegg and Co. These plants, although quite hardy, might also be grown in pots in the cool greenhouse for early spring display.

Late-keeping Apples, so good as to win a silver Hogg medal, were shown by Messrs. G. Bunyard and Co. The best of the many sorts were Mother, Easter Orange, Allen's Everlasting, Mannington Pearmain, Cabalva and Hensgen's Golden Reinette.

The Narcissus Committee also concerns itself with Tulips, and, although there were no awards given to novelties, there were several collections of exceptional interest. For some little time past Messrs. R. H. Bath, Limited, have shown how well Darwin Tulips can be grown in pots and little



THE WELL KNOWN DAFFODIL KING ALFRED.
One of the best for massing.



NARCISSUS ORNAMENT.
Soft primrose and fiery scarlet.

jariniere of fibre, and on the present occasion they really surpassed themselves. The flowers were all of "first size," perfect in colour and borne on exceptionally long, stout stems. Forced Darwins, especially earlier in the season, have a tantalising habit of coming rather weak in the stem, so that the flowers nod unduly and so lose most of their charm; but there was not the slightest suspicion of this with Messrs. Bath's collection, nor with the decorative group by Messrs. Carter and Co.

Of the great variety of Darwin Tulips it was perhaps the vivid, glowing colour of Petrus Hondius that most held the eye and compelled admiration, although the soft pink colour of Clara Butt, which is lightly tinged with salmon, also had many admirers. King Harold, rich dark blood red; Baronne de la Tonnaye, bright rose with silvery edging; Bartignon, carmine crimson; Euterpe, brilliant clear lilac; and White Queen are also admirable sorts.

The dwarfier, sturdier Dutch Tulips were shown by Messrs. R. and G. Cuthbert, who had splendid blooms.

At one time the National Rose Society had intended holding their Spring Rose Show on the present occasion, but for various, and no doubt good, reasons decided to postpone it for ten days or so and go to the London Scottish Drill Hall. Judging from the several exhibits of forced Roses at the R.H.S. Hall, it is a splendid season for forced blooms, and besides the quantities of the new *Souvenir de Claudius Pernet*, Mr. Walter Easlea had lovely blooms of *Columbia* and *Premier*, among many others. Mr. George Prince again showed graceful sprays of the *Yellow Banksian*; but these were quite overshadowed by the brilliance of *Padre*, which is one of the new Roses of last year. Among the many sorts so finely set up by Mr. Elisha J. Hicks there were several

fine vases of the fragrant soft pink *Mrs. Elisha Hicks*.

Sometimes one is almost inclined to think there should be a short close season for the greenhouse Carnations, but it would be a difficult matter to say when that interim should be. All through the winter these Carnations are indispensable, and now that other flowers are becoming more plentiful, such magnificent Carnations as those shown by Messrs. Allwood Brothers, Mr. C. Englemann, Messrs. K. Luxford and Co. and Messrs. Stuart Low and Co. forbid any suggestion that the present should be a close season. When it was first shown some had their doubts as to the lasting qualities of the glorious scarlet *Edward Allwood*, but it has proved almost equal in this respect to the beautiful pink *Lady Northcliffe*, which is well known as one which outlasts all others when out.

NEW AND RARE PLANTS.

Narcissus Golden Pedestal.—A golden yellow companion to *White Pedestal*. It may be termed a glorified *Sir Watkin*, possessing perfect form, plenty of substance and a deeper coloured corona. A really beautiful flower which should have a great future. Award of

merit to Mr. J. L. Richardson.

Narcissus Magog.—An immense Trumpet even larger than *King Alfred*, which it closely resembles. The only other difference appeared to be not so rich a golden colour and a rather more open tube. But it is a very showy flower. Award of merit to the Douard Nursery Company.

Narcissus Silver Chimes.—This is an exceptionally beautiful *Tazetta-Triandrus* Daffodil. It produces a beautifully clean stem bearing five or six dainty blooms. The perianth is white and the long cup is primrose coloured. It should be a valuable sort for garden display as well as for exhibition. Award of merit to Mr. J. C. Martin.

Narcissus White Nile.—A medium-sized Trumpet Daffodil of ruffled appearance. The perianth is white and the long trumpet, which is prettily frilled, is lemon yellow in colour. Award of merit to Messrs. F. H. Chapman, Limited.

Freesia Mouette.—One of the many beautiful coloured *Freesias* in the Reading exhibit and quite the most fragrant of them all. It is a good spike of large, widely expanded blooms delicately flushed on cream ground with lilac and brightened



NARCISSUS GOLDEN PEDESTAL (AWARD OF MERIT).



NARCISSUS JAUNE A MERVEILLE

by a little orange colour on the lower petal. Shown by Messrs. Sutton and Sons.

Rose Souvenir Claudius Pernet.—A large vase of this handsome *Pernetiana* variety was shown. Even when forced it has long, stout stems and dark green foliage. The blooms are of good shape until just after full bloom, when they spread rather much. The centres are of deep yellow colour and the outer petals are bleached somewhat in the *Sunburst* manner. It seems a splendid Rose for forcing. Award of merit to Mr. W. Easlea.

Bougainvillea Mrs. Butt.—This most brilliantly beautiful *Bougainvillea* has long been grown in Jamaica and other West Indian Islands, but is quite new to English gardeners. A small plant was shown, but it apparently had been subjected to a rather too high a temperature, as the flowers wilted quickly. But it can be grown as readily in a warm greenhouse as the well known *B. glabra*, when the flowers last quite well. The colour is rather variable, but may be described as being reddish crimson. Award of merit to Messrs. Stuart Low and Co.

Cymbidium Castor var. Claytoniensis.—A handsome, robust, arched spike bearing a large number of well formed blooms. The sepals and petals are of old ivory colour flushed and lined with rose, and there are rosy carmine lines on the lip. Award of merit to the Rev. J. Crombleholme.

Odontoglossum eximium Mabel.—A well marked flower of good substance. It is of velvety chocolate maroon colour with definite white margins. Award of merit to Pantia Ralli, Esq.

Oncidioda Stuart Low.—This strikingly beautiful Orchid has long trails of almost butterfly-like flowers of reddish maroon colour occasionally flushed with orange. The curious projecting lip is tipped with golden yellow. Award of merit to Messrs. Stuart Low and Co.

CORRESPONDENCE

ROTATION OF CROPS.

IT is the general opinion that crops always do better with a change of soil and the land will be cleaner and healthier for it. A good gardener will work and cultivate his land in a thorough manner, using large quantities of organic manure, and invariably plant it with any seasonable crop that he has handy. In doing this he may not adhere to the rotation system, though the results prove satisfactory. Many reasons are given why crops should be grown in rotation. At one time botanists thought that the roots of plants gave off some kind of excrement which poisoned the soil and made it unfit for the same kind of crop again. Another plausible explanation was that by continually growing the same crop on the land it became impoverished and unable to produce a good or paying crop. Practice has proved that all the ingredients which form the plant food can be replaced without any appreciable loss. It should be remembered that plant food is taken up by the roots in the form of nitrates; also plants require nitrate, potash and phosphates to bring them to perfection. One of the best reasons for rotation is the prevention of indigenous diseases. It is quite common to hear the remark "My Cabbages always club on that patch of garden," although the remedy is easy. Supposing a crop of Cabbages is attacked by the club (*Plasmiodiophora brassicæ*), the spores will remain in the ground in a resting or dormant state. Cabbages are planted on the ground. After the resting stage the spore bursts and releases the slimy fungus, which is distributed by the first downfall of rain. In this way it comes into contact with the young rootlets of the Cabbage plants, which absorb the fungus, and the plants are again attacked with club to the disgust of the grower. A crop of Peas, Beans or Potatoes would have prevented this. The same thing applies to the Potato crops and the Potato disease.—R. D.

A LITTLE KNOWN ROCK PLANT.

A PRETTY mass of *Draba Athoa* was a conspicuous though modest feature in the rock garden of the Royal Botanic Gardens, Edinburgh, in the first week of April. It is not much cultivated in gardens, and is comparatively little known. A sheet of it in the rock garden was quite bright with its numerous clusters of flowers just a little above the cushions of spiny foliage, the whole creating a bright impression with the golden yellow of the flowers standing out well against the dark rocks of the garden. It belongs to the section called *Aizopsis*, which comprises a number of *Drabas*, almost entirely with yellow flowers, and forming cushions rather than carpets, and with the leaves edged with spiny teeth or bristles. It comes from Greece, where it is limited to the tops of several mountains. It has broader foliage than some of the plants of the same section, and has good-sized flowers with conspicuous anthers. It does not seem difficult to cultivate and looked thoroughly happy at Edinburgh.—S. ARNOTT.

ALPINE PLANTS IN PIG TROUGHS.

A VISIT to the garden of Mrs. Saunders, sen., of Wennington, near Lancaster, revealed to me many of these plants growing with wonderful vigour in small sandstone pig troughs, especially several of the *Primulas*, as *helvetica alba*, *pubescens* and others. *Daphne rupestris*, a grafted plant, but only a little smaller than the one so often shown by the late Mr. Farrer, was in good condition. *Saxifraga Irvingii*, some six or eight clumps (in one trough), each at least 3 ins. across, in full bloom, was very fine; but the

plants that I admired the most were two large clumps of the rare *Saxifraga Boydii*, true, both in full bloom—"A sight for the Gods." I have not seen during my forty years of growing alpine such fine healthy plants and so freely flowering. Mrs. Saunders also had *S. oppositifolia* very fine, as also the white form. This latter struck me as being a clearer white and with larger flowers than usual. These were grown on the borders and were collected by Mrs. Saunders.—T. O. W.

A RARE PRIMULA.

I AM sending a photograph of *Primula Fortunei*, which, I understand, is a very rare plant. It is a Chinese species and somewhat resembles *P. farinosa*. The rosy-lilac flowers are borne on



A CHOICE CHINESE PRIMULA.

larina-covered stems, thus giving this plant an extremely graceful appearance. Unfortunately, *P. Fortunei* is not quite hardy, and during cold weather is best given some protection. If grown in a pot or pan it makes an excellent plant for the alpine house. I cannot find this desirable plant listed in any catalogue that is in my possession, and I should very much like to know if anyone has a stock of it. It would be a great pity if this beautiful *Primula* became extinct.—C. H.

A SELECTION OF SHRUBS.

ANSWERING "H. E." in your issue of April 8 (page 167). I have endeavoured to get together a short list of shrubs, most of which I have both seen and tried on a chalk soil. It is not an easy matter to give a selection of the best shrubs for a chalk soil without knowing the locality and exposure of the garden for which

"H. E." seeks advice. Many of the rarer and more interesting shrubs require the shelter of semi-woodland, or at any rate some "line of defence" from cold northerly and easterly winds, otherwise the soil indicated, "namely, chalk under a good deep soil," would grow almost anything that does not belong to the *Rhododendron*, *Azalea* and other lime-hating families. "H. E." asks for four or five dozen of the leading species. I am wondering if he only intends to plant one variety of each species, and, if so, would beg of him to reconsider this, in that far better effects are obtained by grouping several plants of one variety together. Such groups may vary in size from three or five to a dozen or more plants, and each group should be isolated from its neighbour by an under planting of some dwarfier shrub.

The best evergreens that are not considered flowering shrubs would be *Phillyrea*, of which the species *P. Vilmoriniana*, *P. angustifolia* and *P. latifolia* are perhaps the best. Holly, of which nothing is better than the common hedgerow form. *Juniperus*: *J. communis* and the Spanish Savin, *J. tamariscifolia*, also *J. tripartita* and others. *Elæagnus*: *Vars. glabra*, *macrophylla* and *pungens*. *Laurus nobilis* (Sweet Bay) and Box, with *Castanopsis chrysophylla*. A generous grouping of all or any of these would give the necessary background and shelter and help to modify the otherwise bare effect that many deciduous shrubs give in the winter months. One might add the Golden Yew, *Retinospora squarrosa* and *Cryptomeria elegans* for winter colour, and the double-flowering Gorse. For flowering shrubs I will begin the year with *Chimonanthus fragrans*, the Japanese Allspice; *Berberis Bealei*, the winter-flowering variety of which is, I believe, now catalogued as *Berberis japonica hyemalis*; *Berberis intermedia*, similar to the foregoing but having rather larger darker green leaves and flowering a little later; *Azara microphylla*, with small dark evergreen leaves of vanilla scented but otherwise inconspicuous flowers. I also like *Ruscus aculeatus*, the Butcher's Broom, for a shady place under trees. It can be found growing wild both on clay and chalk. *Daphne Laureola*, or Spurge Laurel, being dwarf, is an invaluable shrub for underplanting either in sun or shade, and is especially fine in winter with a further underplanting of Snowdrops. It can often be found growing wild, but as it does not transplant very well small plants only should be used. It would probably grow quite well from seed after a year or possibly two year's germination. *Daphne Dauphina* can also be recommended. *Daphne Mezereum*, both the white and pink varieties, thrive well on chalk, and will often seed themselves, to which the same remarks apply as the foregoing. Established specimens should on no account be pruned or cut to any great extent. I can thoroughly recommend large groups of this *Daphne*, which gives flowers in February and March, and berries later in the year. The pink *Daphne Mezereum* associates well with an underplanting of purple *Crocus*. I here mention a new shrub that was, I think, introduced by Messrs. Smith of Newry, known as *Prunus subhirtella var. autumnalis*. The words "price on application" in Mr. Smith's catalogue need no further explanation. It is a valuable shrub, however, blooming from November to May. Paul's new purple-leaved Peach and *Berberis vulgaris fol. purpureis macrophylla* come to mind as giving good purple colour in their leafage. *Cornus Mas*, the Cornelian Cherry, and *Forsythia suspensa*, together with *F. intermedia spectabilis* and *viridissima*, bring the genera of shrubs already mentioned up to twenty. Here I name *Choisya ternata* or Mexican

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Peas.—Where a regular supply of these must be maintained to well into the autumn a sowing should be made every fortnight or three weeks, according to the supply required. In some districts it will not be of much use to sow later than the latter part of June, but in favourable localities and where the soil is warm and well drained it is possible to sow right up to the end of July or even during the early days of August. For these later sowings the spot should be carefully selected and a quickly maturing variety should be sown for preference. In making sowings for the next few weeks which will furnish the main supply it will be advisable on light soils to sow in a shallow trench, thus affording the roots some shelter from hot sun and also providing a receptacle for possible rains and mulchings. It is important that the early sown Peas are staked as soon as it becomes necessary.

Orange Flower, and *Osmanthus Delavayi*. Among April-flowering shrubs there are so many it is difficult to make an eclectic selection, but I think there are few that can beat the varieties of *Pyrus japonica*, of which *cathayensis* and *Sargentii* are comparatively new and little known, while the old cottage *japonica* is very hard to beat, because few rare and expensive so-called novelties are superior in sheer beauty of flower to this homely wayside shrub. Personally, I have great affection for the April-flowering double *Kerria japonica*, another old-fashioned garden shrub rarely seen now except in old and neglected gardens, and the same may be said of *Leycesteria formosa*. The former is especially fine when trained to grow over a short pergola arch or clambering over a summer-house. Its green stems give quite good winter colour; while *Halesia tetraptera* is a good April and May flowering shrub. Messrs. V. Lemoine of Nancy have a very fine new pink Lilac which is named *Syringa Sweginowii superba* (A.M., R.H.S.). For May nothing can beat the Philadelphia or popularly known *Syringa*, of which the best varieties are *purpurea maculatus*, *Virginal Fantaisie*, *Voie Lactée* and *Mont Blanc*. Among species of Philadelphia, *Yokohama* (*Satsumi*) is perhaps the best. For June *Halesia hispida* and *Styrax obassia*, *Magnolia conspicua* (*Yulan*) and its variety *speciosa*, *M. Soulangeana*, *M. stellata* and *M. parviflora*, *Buddleias*, *Lonicera syringantha*, *Exochorda Giraldii*, *Diospyros Kaki* (*Persimmon*), *Deutzia magnifica*, *Cercis Siliquastrum* or *Judas Tree*, *Fuchsias* (*glabosa*, *Riccartonii*, *gracilis* and *macrostemma*), *Hibiscus* in varieties (*Bleu Celeste* and *alba*), *Cistus crispus* *Sunset*, *Cistus purpureus* and *Helianthemum*, many of the *Cornus* tribe, particularly *C. Kousa* or *Benthamia japonica*, *Viburnum Opulus sterile*, *Viburnum plicatum* (very fine in June and again for autumn colour), *Crataegus Crus-galli* (*splendens*), *Hydrangeas*, *Cotoneasters* in variety, *Erechas* in variety, *Chionanthus* (the *Fringe Tree*), *Aesculus parviflora* (late July), *Ceanothus azureus*, *Ceratostigma Willmottiana* (*Miss Willmott's Plumbago*) for July, August and September; *Caryopteris Mastacanthus* (July and August), *Paliurus aculeatus*, *Ruscus racemosus*, *Berberis* in variety and the lovely autumn colouring of *Parrotia persica*, *Vinca difformis*, *Veronica parviflora hyemalis*, *Hamamelis mollis*, *Rosemary* and *Lavender* must end a somewhat disjointed list of shrubs that have come to mind as being among some of the best. I would like to mention the old-fashioned *Lycium europaeum* (*syn. European Box Thorn*) as growing well on chalk.—EDWARD SHOOSMITH.

A PRETTY ANNUAL FOLIAGE PLANT.

A SOMEWHAT unusual annual not generally grown is *Kochia trichophylla*, commonly known as the *Summer Cypress* owing to its resemblance to a tiny *Cupressus*. This beautiful ornamental annual should be sown in prominent positions either in beds or borders. The plants attain a height of 2ft. to 2½ft., and are a pleasing light green in colour. But the great charm of this plant is revealed when in autumn it matures. It then turns a brilliant crimson. When the colouring takes place the plant is really dying, but fortunately dies slowly! The *Kochia* is exceedingly useful as a dot plant and is also adaptable to pot culture. The plants are egg-shaped or columnar. It is a relative of *Kochia scoparia*, which is a terrible weed in some gardens. If grown in pots it makes an excellent plant for the dwelling-house, especially if placed in a prominent position in the hall or on balconies. Seed may be sown now where the plants are to flower, but drastic thinning must be resorted to when the seedlings appear.—L. H.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Early Cauliflowers.—Plants raised under glass should now be sufficiently hardened off for planting in the open. Plant on a warm part of the early border which has been deeply dug and thoroughly enriched during the autumn or winter months. Fork over and plant in rows 18ins. apart. For dwarf-growing sorts, such as *Dean's Snowball*, 1ft. apart in the row is enough. Dust round the plants with soot or lime to protect from slugs.

Early Sowings of Beet.—A sowing of Egyptian Turnip-rooted or *Sutton's Globe Beet* may now be risked. Choose a part of the garden that has not been subjected to recent manuring. Beet may readily follow Brassicas or Peas as a rotation, and give excellent results. Sow thinly in drills 15ins. apart and thin out the young plants to 9ins. apart in the row.

Vegetable Marrows.—Sow seed for the main crop in small pots and germinate in a warm greenhouse. As soon as the young plants develop their tough leaves they should be potted on into 6in. pots and grown on in a genial temperature, gradually hardening off for planting out at the end of May. Even at that date they must be sheltered at nights, as young Marrow plants are readily susceptible to the least touch of late frost or the influence of biting winds. *Rotherside Orange* has proved a fine variety, the fruit being of convenient size and of excellent flavour.

Lettuce.—Plants that have been raised under glass may now be safely transferred to quarters in the open. Make fortnightly sowings of *Cos* and *Cabbage* varieties.

Tomatoes.—The earliest batch in pots will now be requiring some assistance in the way of feeding, as the genial influence of sun-heat assists rapid development of the fruit. Where several trusses are well set occasional waterings with liquid manure may be given. Attend to the tying of successional lots and remove all lateral growths as they appear.

Fruit Under Glass.

The Orchard House.—Where a good set of Peaches and Plums has been obtained on pot plants the syringe should now be used freely so that red spider and aphid may be kept in check. Discretion must be used when disbudding, retaining ample growths for next season's fruiting. When the fruits begin to swell a little stimulant may be afforded. Ventilate freely during fine weather.

The Shrubbery.

Transplanting Evergreens.—This period is favoured by many for the planting of evergreen shrubs, and there is no doubt that if the work is carried through in suitable weather the plants make a quick recovery at this time. In moving specimens have the site prepared and do not expose the ball unnecessarily to the weather, as drying winds shrivel the fibrous roots. Should dry weather prevail give the plants a thorough soaking of water to settle the soil about the roots. Hollies may be moved with safety from now till the first week in May.

Forsythia Fortunei.—This variety with us is the earliest flowering of all the *Forsythias*, having now been in bloom for several weeks. It should be pruned immediately it is past flowering so that plenty of young wood may be produced for next season's display. Where it is trained to a wall or fence do not tie in too closely. Make firm the main branches, but leave the light, pendulous shoots free. This attention adds considerably to the plants' attractiveness when flowering.

Cutting Ivy on Walls.—Ivy on walls requiring trimming should be attended to now. Cut closely and take out any thick, coarse growths where possible. Always aim to have a thin sheet of fresh growth, as nothing looks worse on a wall than lumpy and irregular Ivy. Where this condition prevails it is better to cut right back to the ground and let the plants come away afresh.

The Flower Garden.

Preparing Flower-Beds.—All beds which are bare of spring-flowering plants should now be dug and put in order for summer bedding. If manure is added see that it is well decayed. Fresh manure too readily causes over-luxuriant foliage with corresponding scarcity of flower.

JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

The Flower Garden.

Pentstemons.—The planting of these should be completed without delay so that the plants may get well established before the hot weather sets in. The best effect is obtained when whole beds or borders are given up to them and the massing of the plants is carried out in a properly thought out colour arrangement. They will repay a good soil prepared for them, and at a later date, when the spikes are developing, a mulch of well rotted manure and leaf-soil should be given in equal amounts.

Stocks.—The hardiness of the East Lothian Stock makes this valuable strain almost indispensable where this family of plants is appreciated. Late autumn sown or those raised early this year should now be placed in their flowering positions, being careful not to damage the roots, as Stocks frequently resent removal. This Stock makes an excellent groundwork for such plants as tall *Gladioli*, some of the *Liliums* and standard *Heliotropes*, according to colour.

The Hardy Fruit Garden.

Mulching.—On light soils this is a most important operation, and may almost be termed a necessity to newly planted trees against walls and buildings if the required amount of moisture is to be preserved for the roots during the hot weather. Trees in the open do not, of course, suffer nearly to the same extent, but where the material may be had a mulching is undoubtedly helpful on light, porous soils. Failing a sufficiency of decayed manure, a most suitable one may be made by adding some decaying leaves and lawn mowings to as much of the former as is available. Trees carrying stone fruits probably show ill-effects from lack of moisture the most, so should receive attention first.

II. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

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THE GARDEN

No. 2632.—VOL. LXXXVI.]

[APRIL 29, 1922.]

PLANTS FOR THE WATERSIDE

THE treatment of the margins of water in the garden requires very considerable forethought if summertime is to prove a complete success. How refreshing and restful it is on hot, parching days when all Nature is thirsty to happen upon a well planned and furnished piece of water where one

may stroll right down to its edge and in the welcome, cooler shadow of some fine tree recline and listen to the drowsy lapping of the current of the stream against the bank, or, better still, if it can be arranged, the musical tinkle of the descending drops of a miniature waterfall. In the greater number of cases, however, it is the

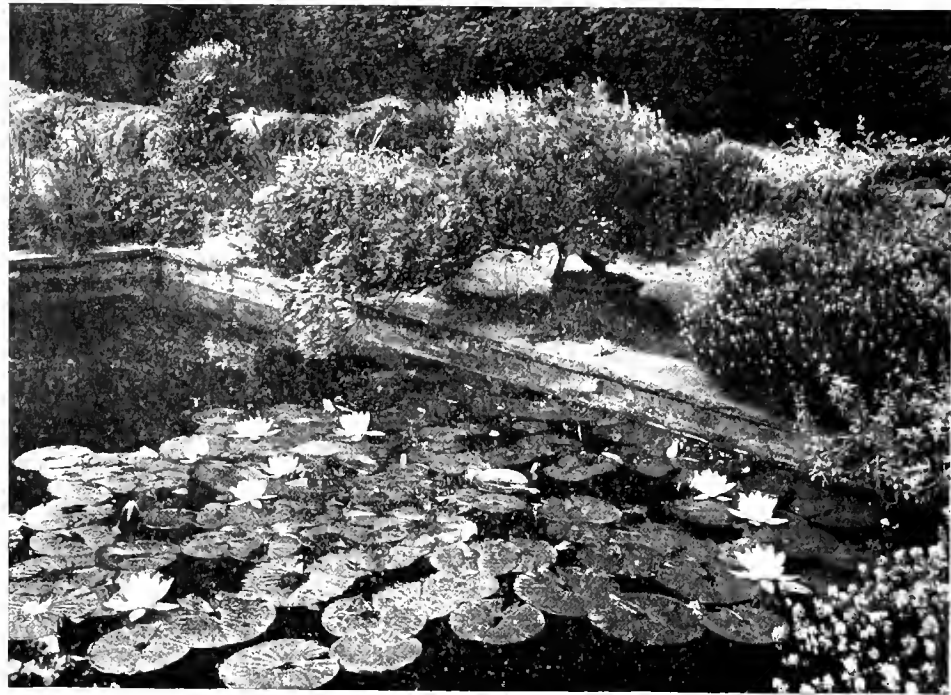
quite small or moderate sized pond, artificially created, that has to be dealt with, and the arrangement of our plants will naturally follow the character of the pond or stream. If this is formal, more or less formality should obtain in the disposition of the groupings; if irregular in shape, Nature herself provides sufficient hints for our guidance.



EFFECTIVE PLANTING AROUND A SMALL POOL.

Overcrowding of the banks, especially with tall-growing plants, should in any case be avoided. Such banks are not herbaceous borders and ought not to look like them. Definite separation and breaking into groups is far more essential round water than anywhere else in the garden. The value of the surroundings should be employed to the utmost, for by skilful arrangement of bog-loving species the apparent size of the whole can be greatly magnified. Whatever plants are employed, use them in groups big enough to be effective and in variety sufficient to maintain the interest. It is unwise to overcrowd, however, for the sake of including a larger number of varieties. Much of the success of a good garden lies in knowing what to eliminate. However small the area of the water, do not completely surround it with tall plants so that it comes on one as a complete surprise. From one part of the garden, at least, it should open out so as to provide a vista. The best bank arrangement of all, where it can be managed, is where the ground rises gradually away from the water on three sides and on the fourth is almost level with the surface, as it can thus by judicious planting be made to appear as though the water had collected in a natural hollow, and yet on the fourth side can be approached near enough to appreciate all its beauties in detail.

The smaller the pond the greater the number of dwarf growers that should be selected to surround it, with only a few outstanding plants to add character and dignity to the whole, always being sure to place those that love the damper soil or to have their "feet in water" nearest to the edge, with others needing less moisture further away, until the ordinary run of herbaceous plants or shrubs is reached. Large foliaged plants are grand where space permits of their full development, especially where they can overhang the water, and of these *Acanthus candelabrum* with its unique glossy foliage, 2ft. or 3ft. long, is splendid, rapidly forming very handsome specimens. A gigantic plant with immense imposing foliage, showing to great effect on islands or where space is quite unrestricted, is to hand in *Gunnera manicata*. It throws up correspondingly large heads of flower in June and July, often 8ft. across and greenish in colour. It comes to us from Brazil, so is safer if a heap of leaves or ashes are piled over the crown in winter as a protection against the severest frost. *Arundo conspicua* is a grand member of the Grass family with dense tufts of narrow, arching foliage flowering in August; while for a position further away from the margin where the ground is not too moist *Arundo Donax*, the giant Reed, is superb. *Heraclium giganteum* is somewhat coarse and useful only where abundance of space can be given it, as it easily attains a stature of 8ft. to 10ft. with large leaves and enormous flower-heads like a giant Cow Parsley. Specially effective is an American plant, *Jussiaea longifolia*, which reaches 4ft. to 5ft. with yellow flowers like those of the Evening Primrose, very freely produced. The willow-like foliage, however, is its chief attraction, especially in autumn, when it becomes deep crimson. Splendid golden sunlight effects on dull days are obtained with *Phragmites communis aurea*, a fine golden variety of the common Water Reed, easily attaining a height of 5ft. The Bullrush is always popular, and even where it does not flower, the distinctive foliage is sufficiently good to ensure its admission. Perfectly hardy in the South, but better for slight protection further North, is *Phormium tenax*, one of the noblest waterside growers. It should have the fullest sunshine, where the enormous sword-like, oppositely arranged leaves develop to their fullest capacity. *Senecios*, particularly *S. Wilson* with



INFORMAL PLANTING ROUND A FORMAL TANK.



THE STEPPING STONES.

its spikes of fine yellow flowers and shiny green leaves look especially striking and handsome close to the water. Bamboos and the strong growing Grasses, such as *Erianthus Ravennae* with bronzy-purple foliage and plumes resembling the Pampas Grass—yet another fine waterside plant—afford a further selection of bold, tall growers should additional plants be required, though these should not be employed to the exclusion of the many beautiful shrubs and small trees available. Rhododendrons and hardy Azaleas merit special mention for the mass of vivid colour they give in May and June and the reflection of these masses thrown back by the calm water surface.

Among dwarf plants suitable for small streams and ponds the number of species is much greater. *Caltha leptosepala* is an uncommon variety of the Marsh Marigold flowering in May and June, the flowers being pure white. The Marsh Marigold itself *Caltha palustris* has several desirable forms, including the double variety, *monstrosa plena*. Hardy Cypripediums as represented by *C. pubescens* with its golden yellow flowers and *C. spectabile* with its pure white petals and sepals and large brilliant pink pouch are two very choice things worthy of a special position and succeeding best where a bed of spongy peat can be arranged for them, to be always damp, but not sodden. Several Ferns, such as *Onoclea sensibilis* with its light green, slightly glaucous fronds and creeping rhizomes; *Osmunda interrupta*, which flourishes in full sun, with lovely velvety green fronds and fine, vigorous spikes of inflorescence; *Osmunda regalis*, the Royal Fern, with pale green fronds growing to a gigantic size in peaty bogland. All varieties of the Hart's Tongue, *Scelopendrium*, are valuable and, where the soil retains moisture enough at all times, do as well in full sun as in shade. The wonderful hardy Pitcher Plants, or Sarracenias, add unusual interest owing to their unique formation, but should be so placed as to permit of close scrutiny. *Helonias bullata* is specially showy with its rosettes of glistening green foliage which takes on the most vivid red and crimson shades in autumn and numerous bright pink flowers on foot high stalks in summer. The Japanese Irises (*Iris Kempferi*) and the variety of our common native yellow Water Flag with variegated foliage are both splendid, while the Siberian Iris with its long, arching grass-like leaves and wonderfully netted foliage is no whit less desirable. The Japanese sorts and also those fine Flags *I. aurea* and *I. ochroleuca* resent too boggy conditions, though they need an abundant water supply. *Lobelia siphilitica* with its leafy green stems and blue flowers accompanied by *L. tulgens* with its bronzy-red leafage and cardinal-red blossoms is very effective.

Among plants of moderate dimensions *Mimulus luteus* literally revels in bog and is a glorious golden-yellow Monkey Flower that, when once established, crops up in the most unlikely places; indeed, it needs keeping severely within bounds. *M. cardinalis* is at once unusual and striking with its bright cardinal-red flowers which are produced in succession for a very long time. Numerous members of the universal *Primula* family are happy near water, *P. rosea*, one of the most brilliant of all, flourishing in peaty soil so



SUITABLE PLANTING FOR THE SURROUND OF A FORMAL POOL.

moist that it trodden on by the foot water oozes to the surface. Its vivid rose-pink flowers are produced in late spring in wonderful profusion. *P. japonica*, the Japanese Primrose, shows a wide range of beautiful colours and where it gets moisture enough reaches 2ft. high, flowering in whorls, tier over tier. *Primula pulverulenta*, somewhat similar, but with mealy stems, is even better. Extraordinarily beautiful is *P. sikkimensis*, a very strong grower with fragrant umbels of drooping yellow flowers. Care should be taken to label this plainly and conspicuously, as the foliage entirely disappears in winter. *Saxifraga peltata*, with its umbrella-like bronze leaves in addition to its own grasses, forms one of the finest backgrounds to the above Primulas that can be found. A very charming plant is *Spigelia marilandica* with its tufts of foliage and erect growing stems of tubular dark red flowers golden on the inside of the tubes. Spiraeas one and all, so far as the herbaceous species are concerned, are *par excellence*

plants for the waterside and afford a sufficient height range to enable us to choose varieties suitable to any sized sheet of water. The Trolliuses are like gigantic Buttercups with the same intense orange and yellow colourings. A good massing of such varieties as *T. hybridus*, Orange Globe, Prince of Orange and Yellow Globe, in moist loamy soil with a little peat, are a revelation to those who only judge by experience in drier, poorer soils.

One point which should especially be borne in mind when planting near natural water is that those plants which are real moisture-lovers should be kept close to the edge and in such positions that when dry times come in summer the fall in level of the water does not leave them stranded high and dry to fall victims to a roasting sun. Spring is undoubtedly the best season in which to undertake waterside planting as inevitable root-damage is now most quickly repaired. H. W. CANNING-WRIGHT.

FRAGRANT GREENHOUSE PLANTS

In these days of fuel economy it is a puzzle to some gardeners who possess a greenhouse to know how to utilise it to the best advantage under absolutely cool conditions. The following article gives some helpful suggestions and should prove of great value to those who have glass at command.

FRAGRANCE is always a great asset in any plant, therefore many plants, although not possessing large or showy flowers, are universal favourites on account of their delicious and in many cases refreshing perfume. There are quite a number of fragrant plants that can be easily cultivated in any ordinary cool conservatory or greenhouse. They also vary widely in their character, ranging from shrubby and soft-wooded plants to bulbs and annuals. Taking the shrubby or more permanent plants first, we find quite a number with fragrant foliage or flowers. In *Lippia citriodora* (the Lemon-scented Verbena) we have an old-time favourite, the fragrant foliage of which has a peculiarly refreshing quality. True it is hardy at the foot of a warm wall in many parts of the country, still it is always worth growing for the cool greenhouse. It is easily propagated by means of cuttings, and this may be done by introducing a stock plant to a house and securing the young growths as cuttings. *Eucalyptus citriodora* is another plant that should be more generally grown for its fragrant foliage. It is easily raised from seed and soon makes nice plants in small pots.

Quite a number of the Cape Pelargoniums have very fragrant foliage, the best being *P. fragrans* and *P. capitatum* (this species is largely cultivated in the Mediterranean region for the oil which is distilled from its leaves, and which is used as a perfume and also for adulterating otto of roses). Others are *P. crispum* and its varieties, *P. Radula*, *P. denticulatum* and *P. odoratissimum*, while many of the hybrids, such as Pretty Polly, Shottesham Pet, Prince of Orange, Lady Mary and others, have sweet-scented foliage. All the above succeed under the usual cultural methods adopted for ordinary greenhouse Pelargoniums.

Coming to flowering plants, *Daphne odora* is a general favourite, but is not happy for long under pot cultivation, and is best when planted out in a border of light loam with the addition of a little peat. This plant is generally regarded as being difficult to propagate by means of cuttings, but this is really not so, and plants on their own roots are most satisfactory. If grafted on stocks of *D. Mezereum* it usually sheds its leaves, while stocks of the evergreen *D. Laureola* and *D. pontica* usually prove too strong for it. The hardy *D. Genkwa* is worth growing in pans in a cool house.

Luculia gratissima is a beautiful winter-flowering shrub which should be planted out in a border of light soil, as it is never happy under pot cultivation. After flowering it should be pruned hard back, as it produces its flowers at the tips of the current year's growth. This has always been recognised as a difficult plant to propagate, and

even skilled propagators have failed to increase it with any degree of success. One important factor in its successful propagation is that the cuttings must never be allowed to flag, and internodal cuttings generally prove more successful than nodal cuttings.

Buddleia asiatica has a most delicate perfume, and it is surprising that such an old garden plant is not more generally cultivated, as it is particularly graceful with its long, slender sprays of white flowers. It is propagated by means of

Boronia megastigma is a slender, graceful plant. Its small purple-black and dull yellow flowers are by no means showy, but it amply compensates for this by its delicious perfume. For the ordinary cultivator it is by no means an easy plant to propagate and grow successfully, but it is a favourite market plant, being grown in quantity by the few firms who still grow hard-wooded plants for market.

Cytisus fragrans, another market plant, is an old favourite which always attracts on account of its delicate scent. It grows freely in small pots and also makes fine specimens if planted out in a cool conservatory.

There are several greenhouse Rhododendrons which should always find a place in the cool conservatory, especially if they can be planted out, the two best being Lady Alice Fitzwilliam and *R. Forsterianum*, the latter bearing fine large white flowers with a delicious spicy fragrance reminiscent of nutmegs. They are easily propagated by means of cuttings made from half-ripened young shoots.

Osmanthus Delavayi, although hardy in the South, makes a very neat pot plant, its white flowers, which are the largest of all the *Osmanthus*, being produced in great profusion. It is easily propagated by means of cuttings.

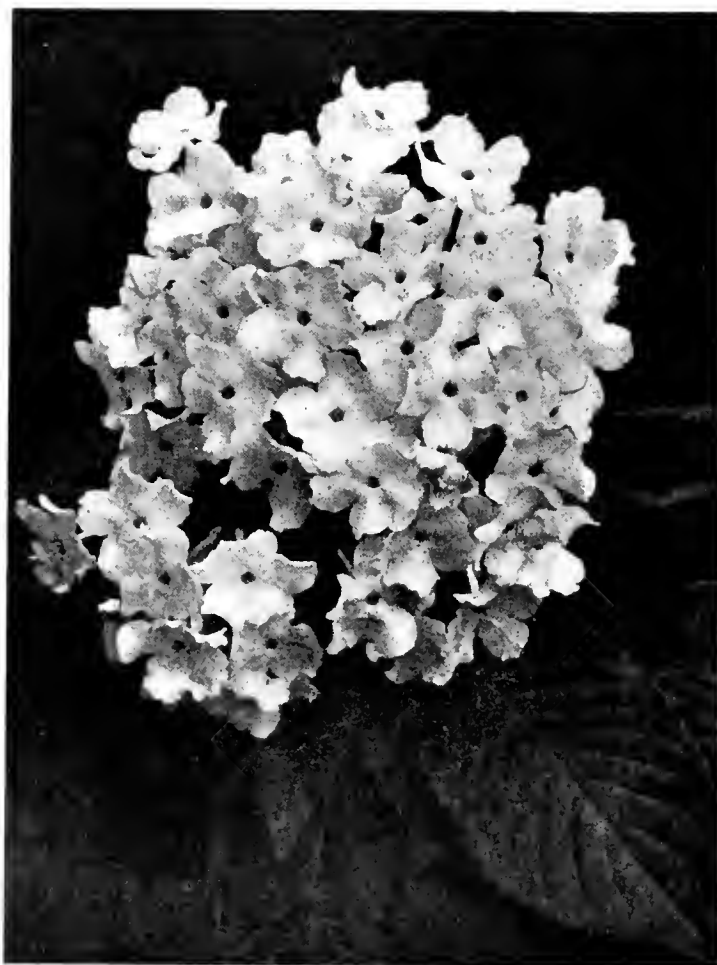
Oranges need only a passing mention, as they are so well known. However, they are what are generally known as dirty plants, and require considerable attention to keep them clean, as they are subject to attack from several scale insects. These pests can be kept in check by spraying the plants frequently with a paraffin emulsion.

Primula verticillata and *P. malacoides* both have delicate primrose scent and are easily raised from seed.

Among climbing plants *Lathyrus pubescens*, *Jasminum grandiflorum* and *J. azoricum* should not be forgotten.

Turning to hardy plants used for forcing, we find quite a number commonly used, such as Lilacs and *Wistaria chinensis* and the newer *Viburnum Carlesii*, the flowers of which often get damaged outdoors by spring frosts. Indoors the flowers come pure white, and with the shelter of a cool house may be had in flower at least six weeks before the outdoor plants. Lily of the Valley is so popular and well known that one need only mention it.

Among bulbous plants there are quite a number that may either be forced or brought on slowly in a cool house. *Lilium longiflorum* is, of course, well known. The newer *L. regale*, one of the finest of hardy Lilies, has also proved excellent for pot cultivation and is easily raised from seed, the young plants commencing to flower two years from seed sowing. *L. candidum* can also be used for pot culture, but must be potted during August and grown at all times under perfectly cool conditions. Lilliums, in common with all bulbous



THE FRAGRANT GREENHOUSE SHRUB, LUCULIA GRATISSIMA.

cuttings, which make nice plants for the greenhouse stage in their first year, and if potted on the second year into 8 in. or 10 in. pots make fine large specimens which should be stood outdoors during the summer months, as the flowers are produced during the winter. *Buddleia officinalis*, a later introduction from China, is a stiff-growing shrub without the grace of the former plant. It produces its lilac-coloured flowers during the winter, which are strongly honey scented, very different in quality from the delicate perfume of *B. asiatica*. Nevertheless, many seem to enjoy its more heady fragrance.

Michelia fuscata, more generally known as *Magnolia fuscata*, has small dull purple flowers which are strongly fragrant, one or two flowers being sufficient to perfume a large house.

plants, should be well rooted before there is any attempt to bring them on indoors. Hyacinths may be had in flower over a long period. Roman Hyacinths can easily be had in flower for Christmas; so can Paper White Narcissus, followed later by the Polyanthus and Poetaz Narcissi, also Jonquils and Poeticus ornatus, the latter always popular about Easter. Two Tulips that are distinctly sweet-scented are the double rose-coloured



THE ESPECIALLY FRAGRANT LILAC FREESIA MOUETTE.
Of fragrant plants none is more welcome than the Freesia.



THE EXQUISITELY FRAGRANT LILIUM REGALE.

Murillo and the single Prince of Austria. Freesias can be flowered in the autumn from seed sown during March, but are more generally grown from corms, which should be potted up not later than the end of August or the beginning of September, growing them quite cool at all times. Carnations and Roses should not be overlooked.

Mignonette and Stocks should be used. These are, of course, raised from seed and both require careful cultivation. Although usually treated as an annual, plants of Mignonette by careful cultivation may be kept for several years.

The foregoing does not, of course, by any means exhaust the list of sweet-scented plants that may be grown for the conservatory. Perhaps readers may be induced to write about other sweet-scented plants that space forbids me to mention

J. CURTIS.

SOME FLOWERS THAT IGNORE THE LATE SPRING

THERE are some compensations even in a late and unkindly spring, and one of them is that while so many early flowers are retarded one is able to appreciate to a fuller extent than is usually possible—for a busy man, at any rate—the few which are bold enough to bloom before the "rush" comes. One of these is *Synthyris reniformis*, a hardy Rocky Mountain plant which delights in a cool, semi-shady corner where it will make a glossy green bunch of prettily toothed leaves, above which rise to quins. or so a cluster of flower spikes, each crowded with little blossoms in a very pleasing shade of cool lavender blue. Once happily established *S. reniformis* seems to carry on indefinitely without attention and often rewards us with a second blooming in autumn.

Morisia hypogaea, one of the most charming rock garden plants of any season, is another that seldom fails us, be the season what it may. It believes in following the almanack, and no sooner have we passed the Vernal Equinox than the curious dark green mound of leaves begins to get studded with yellow buds which, within a week of tolerable weather, break into the large, bright yellow, cruciform flowers of which a succession is maintained until we are nearly into summer. A very well drained and sunny position is what this cheerful little Sardinian seems to enjoy, and there, in this garden at any rate, it will bring up a small family of seedlings on its own account if the summer is to its liking.

The common *Muscari botryoides* (Grape Hyacinth) is also faithful to its appointed time, and one can hardly overlook it, for where it enjoys its home it will thrive redundantly enough to qualify for a nuisance list. But the beauty of its blue globes, with their tiny white teeth, and especially the delightful sky-blue shade of the variety *pallidum*, cover many sins, if it has any, and "robustiousness" is, after all, sometimes a rather desirable feature.

In the rock garden, and well out of the way of the ramping and splendid *Aubrietias*, so over-whelming to all else in the abundance of their gorgeous purples, crimsons, pinks, violets and mauves, *Arabis Sundermanni*, with foliage of a pale green and clear rose-coloured flowers, is making worthy efforts, always coming into bloom just before the excellent *A. aubrietoides*. *Viola gracilis* is also bearing some of its inimitable flowers, and close by is a newcomer, the deliciously fragrant, clear blue *St. Helena Violet*, a charming little thing, none the less fascinating, perhaps, because no one seems to know its history.

Lithospermum rosmarinifolium, which has been flowering since Christmas, still bears a few blooms, despite many weeks of frost, sleet, rain, snow and frost again in most trying alternation. A word of encouragement must also be offered on behalf of the ever-trustworthy *Pulmonarias*. These are not flowers one can ever love, but the plain-leaved *P. azurea* is a really pleasing blue in some lights, and *P. angustifolia* a good woodland plant. These and others of their tribe—the large and rosy *Mrs. Moon*, to mention one more—are seldom cast down by the most inclement weather, and for that we are thankful.

How different is the fate of the luckless *Anemone Pulsatilla*. For at least a month its flowers have lain huddled and half-awake in woolly wrappings which ought to gleam like iridescent silk, but which, instead, have borne a nearer resemblance to the tatters of a superannuated mop. It is not often in our climate that the Pasque Flower appears otherwise than as a silent protest to an ill world—and bell glasses we abhor.

Anemone blanda, gentle as it is patient and beautiful, has spread its blue rays to the rare sunshine and the hardly less lovely *A. appennina* has also marked such grateful interludes. *A. nemorosa Robinsoniana*, larger and exceedingly lovely in the softest of blue lavender, comes a little later, to be in time, it would seem, to "knock out" its rival sisters of the *nemorosa* family. This, however it will never quite succeed in doing, for surpassingly beautiful as the colour of *A. n. Robinsoniana* undoubtedly is, our Wood Anemones in all their divers forms are beyond comparison. So also is the chaste little *A. trifolia*, which I first saw carpeting the ground beneath some Douglas Firs in Mr. E. C. Buxton's garden. This is always a certain early bloomer here, the first of the ivory-white flowers appearing towards the end of March. A rapid spreader, *A. trifolia* is most suitable for growing about the margins of shrub-beries or in the woodland. Any soil seems to suit it, and with us it proves a first-rate shade plant, growing under dwarf *Rhododendrons* and other evergreens.

The *Drabas* are not an exciting race, in so far as our acquaintance of them goes. Albeit, to some of them is due their need of praise for the plucky way in which they will come into bloom despite the most adverse conditions. The most faithful

in flowering, as well as the most enduring, are the familiar *D. aizoides*, *brunia-folia*, *Aizoon*, all yellow, and the white *Sundermanni*. Cheerful wee flowers are these to look right into when there is hardly another thing in bloom on the rock-garden slope.

Deserving of the warmest tribute for the manner in which they defy the most dismal of springs are

the several kinds of *Orobanchis* most commonly seen in gardens, and which hasten into their first flowers even before they have half accomplished the growth of stem and leaf. A form of *O. varius* with bright pink wings and a creamy-yellow keel is irresistibly charming, and *O. vernus* in somewhat of the same colour, is another of the best. *O. cyaneus*, which

gives us sprays of pure turquoise blue above its half unfolded leaves is also very precious. Few flowers ask for so little as these Vetches and others of their clan, few so content to be left quite alone where they may come up season after season increasing in bulk and loveliness every year.

North Wales.

A. T. JOHNSON.

PLANTS FOR THE MORAINE

Almost all the alpine treasures enumerated below will shortly be in flower. They may then be selected and, as such plants are always supplied in pots, may be procured and introduced straightway.

THE beginner in moraine gardening generally enquires what plants will flourish in the moraine. He asks his local nurseryman, it may be, if a certain species which he fancies will "do" in the moraine. The reply is almost certain to be "yes!" and his little moraine garden becomes choked up with plants which certainly flourish exceedingly, but which would thrive in other positions far easier to construct and to maintain.

With a few exceptions, which merely serve to prove the rule, all rock plants will grow on the moraine, provided that the stone of which it is constructed suits their individual tastes. There is little doubt that most, if not all, herbaceous plants would flourish under similar conditions, but the moraine being, in the average garden, necessarily very limited in extent, should be reserved for such treasures as cannot be satisfactorily accommodated elsewhere.

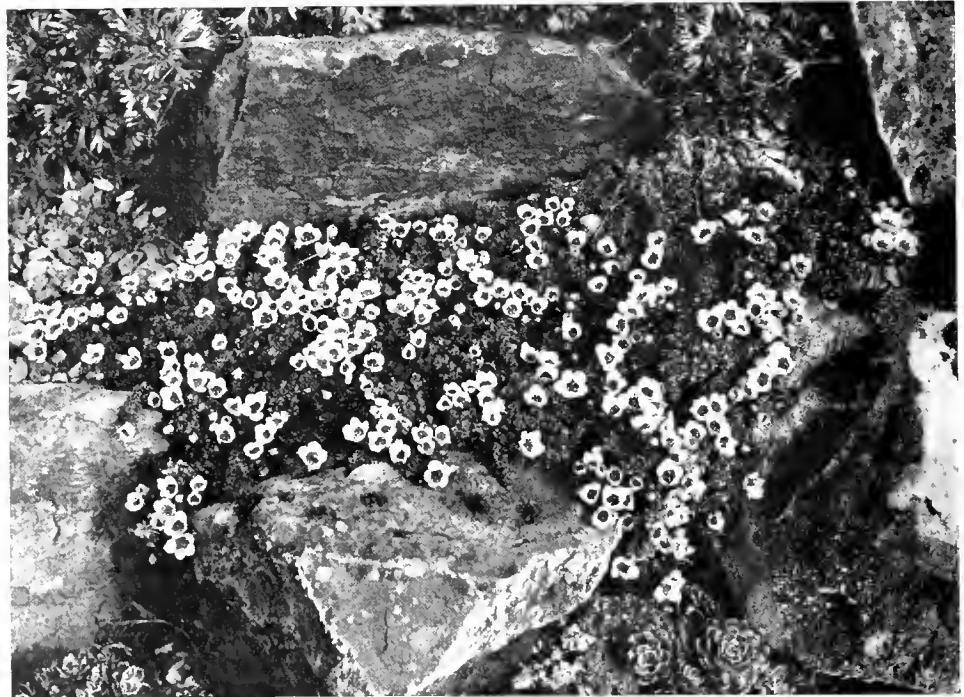
Here may be planted the choicer *Kabschia Saxifragas*. All the forms of *S. Bursleriana* will, by most alpine lovers, be considered worthy. Others which are unlikely really to succeed elsewhere include *S. - Paulina*, *S. Petraschi*, *S. Boydii*, *S. Boydii alba*, *S. - Faldonside*, *S. Rocheliana* and *S. - Irvigui*. The minute *Saxifraga retusa* should have accommodation here, and if the forms of the larger *S. oppositifolia* do not succeed on the cliff, space must be found for them also. Those who admire the red-flowered *S. Griesbachii* and *S. Stribnyii* must grow them in the moraine, though, even there, they are by no means easy. All the above, if the rock is not limestone, should have old mortar rubble in the compost.

Of *Androsaces*, such comparatively easy plants as *A. sarmentosa*, *A. villosa*, *A. - Chunbyi*, *A. primuloides* and *A. toliosa* will flourish where the air is pure in a foot of moraine compost without the underlying trickle of water. It is useless to attempt the woolly *Androsaces* in contaminated air—at any rate, outdoors. Choicer species such as *A. helvetica*, *A. cylindrica*, *A. Chama-jasme* and *A. sempervivoides* must have the true moraine, though the first two, especially, are more easily grown in the alpine house than on the rockery. *Androsace lactea* likes the moraine as does *Douglasia* (*Androsace*) *Vitaliana*. This last will, in a compost almost all limestone rock, flower and spread freely though it hardly attains the luxuriance which *M. Corrodon* so graphically described at its station on *Mont Ventoux* in Provence. See p. 76.

The moraine is, in our climate, the most suitable place for *Androsace carnea* and its beautiful forms *eximia* and *Laggeri*, but the stone here must not be limestone and the compost, besides, should consist mainly of peat and leaf soil. This peaty section of the moraine will accommodate the yellow alpine Daisy, *Arnica montana*, although this plant has little to recommend it except its alleged difficulty. It might be described as a miniature *Buphtalmum*. Here too is the most likely place for the Pine-barren Beauty, *Pyxidantha barbata*, though the exact requirements of this plant are, in the writer's experience, not exactly understood. Other candidates for the same compost, in as exposed and

hot a situation as possible, are *Silene acaulis*, with its truly sessile variety *excapa* and the nearly related

S. bryoides. So treated, they may be persuaded to bloom with comparative freedom, but it is difficult



THE BEAUTIFUL INDIGENOUS SAXIFRAGA OPPOSITIFOLIA, WHICH USUALLY SUCCEEDS BEST ON THE MORAINE.



AN INVALUABLE MORAINE PLANT, CAMPANULA ALLIONII.

to get the flowers even to approach the colour they display on the Alps. The freedom of flowering of these Cushion Pinks, even on the Alps, varies enormously. It is well worth while to raise a batch from collected seeds and to select and re-select them. Here, too, one may try *Dianthus glacialis*. Frequent top-dressings of fine chippings of peat should be given to this rather difficult species. Other Pinks for the moraine are *D. alpinus*, *D. callizonus* and *D. × calalpinus*, but these have the usual *Dianthus* fondness for the limestone. The brilliant *D. neglectus*, never a long lived plant, will, despite statements often made to the contrary succeed in the moraine and even reproduce itself there from self-sown seeds, but it succeeds as well or better, on the cliff-face in full sun.

That mocker of our hopes, the Alpine King, *Eritrichium nanum*, is said to have been successfully cultivated on the moraine, but it is difficult enough in sphagnum in the alpine house!

Of Gentians, *G. Gentianella* will flourish in the moraine—and many are the amateur gardeners who, having failed satisfactorily to flower it elsewhere, have introduced it—but as, in most gardens, it will grow and flower in the path gravel, one would hardly class it as a moraine plant. The allied forms, *Koebiana* and *Clusii* have no special singularity of appearance or beauty, but, if wanted, the moraine is certainly the best place for them, the former on non-calcareous stone and peat, the latter on limestone or with a plentiful admixture of mortar rubble. *Gentiana angustifolia* is a more noteworthy plant, also suitable for the limestone moraine. *Gentiana verna* is emphatically a moraine plant and personal experience suggests that it flowers more freely on chalk than elsewhere. The same treat-

ment is the best that can be recommended for *G. bavarica*, but it is not a plant one would recommend to any but the enthusiast, being the only Gentian to grow in England. No other Gentians are suitable for the moraine.

If there is a well watered portion of the moraine in partial shade, the charming *Soldanellas* should grow there. All three species—*alpina*, *pusilla* and *minima*—are worthy of culture.

Three tiny *Campanulas* are worthy of (and suited for) the moraine. There are *Allionii*, *Raineri* and *Zoysii*. The first named dislikes lime, but the two latter are plants of the limestone. The chief enemies of these minute treasures are slugs. If these can be kept at bay, their culture is in no way difficult.

A "miffy" treasure which needs constant top-dressing is *Draba (Petrocallis) pyrenaica*. Though said to come from the limestone it does not, in the garden, show any pronounced partiality in this respect. Similar treatment appears to suit the far easier and very beautiful *Potentilla nitida* and its rarer white form and the Mountain Buttercups *Ranunculus glacialis* and *R. gramineus*.

The alpinist will have noticed that many of the plants mentioned are not, in nature, moraine species. The fact is that the artificial moraine is a very convenient method of approximating in our English gardens to the conditions as to soil content and moisture which prevail at high altitudes. Whether a plant will succeed in cultivation and if so, under what conditions it will succeed can only be determined by experiment. Preconceived notions suggested by the conditions under which it grows wild often prove illusory.

(Fig. 2). These sawfly larvæ can easily be distinguished from the caterpillars of a moth by the number of legs. There are fourteen claspers and six true legs, making twenty in all; the larvæ of moths never have more than sixteen legs, and in the case of "loopers," such as the magpie moth larva, which is also found on Gooseberries, only ten.

There are at least three broods of these insects during the year, and each brood may continue



FIG. 2.—THE LARVÆ AT THEIR FELL WORK.

to emerge over a period of several weeks. Thus larvæ of all ages and even eggs may be found on the same bush, and some of the earliest larvæ may have pupated before the latest eggs from the same generation of sawflies have hatched. This, of course, increases the difficulty of dealing with this pest.

When full grown the larvæ fall to the ground and spin parchment-like cocoons just below the surface of the soil. The colouring of the cocoons is very variable, ranging from dark brown to yellow, but they are covered with small particles of earth, which have to be rubbed off before the real colouring can be seen (Fig. 3).

The first brood of larvæ begin to pupate from the middle to the end of May, and the sawflies from these (the second brood) emerge in early June. The second brood of larvæ are often mature by the middle or end of June, and from these a third brood of sawflies is produced in July. The larvæ from these pupate in August, and usually remain in the pupa state throughout the winter, producing the first brood of sawflies the following April; but in exceptional circumstances a fourth brood may be produced in late summer. Under favourable conditions the larvæ



FIG. 3.—COCOONS OF THE GOOSEBERRY SAWFLY. (NATURAL SIZE.)
With and without adhering earth.

THE GOOSEBERRY SAWFLY

During the war the majority of gardens were much neglected. Many injurious insects are thus more prevalent than usual, and among them the Gooseberry Sawfly, which annually does immense damage.

THE attacks of this insect and the damage it is capable of doing are well known all over the country. The Gooseberry is its principal food plant, though Currants are also sometimes attacked, particularly the red varieties. The larvæ are familiar enough to gardeners, but the sawfly itself

is by no means so well known. The female is about a quarter of an inch long and five-eighths of an inch across the expanded wings; the head and front part of the thorax are black, and the abdomen and hind part of the thorax orange yellow. The male is usually much smaller than the female, and not nearly so common. (See Fig. 1.)

The first brood of sawflies appears towards the end of April and during May. The females then lay their eggs on the undersides of the Gooseberry leaves, placing them in rows along the main ribs. As many as fifty have been found on one leaf.

These eggs hatch in about a week, and the newly hatched larvæ feed on the lower epidermis of the leaf and so escape observation at first. In two or three days, however, they eat small holes right through, but still remain on the lower surface of the leaf, each larva holding on to the edge of a hole. They feed rapidly and soon nothing but the main ribs of the leaf are left. The larvæ feed together in companies when young, but disperse more and more as they get older. The presence of a colony soon becomes noticeable by the shoots being completely stripped of their leaves.

When young the colouring is pale green, with the head and tail ends of the body yellow. They soon become spotted all over with black and have a black head; the green colouring becomes much paler, and in many cases is only a greenish white, the green being largely due to the contents of the body. After the final moult they again assume a green and yellow colouring and lose their spots



FIG. 1.—THE ADULT INSECT (× 2).
Male above, female below.

develop rapidly, while cold and wet weather retard their growth, and so may reduce the number of broods in a season. The attack of this pest is very persistent if allowed to remain unchecked.

The larvæ pupate in the soil directly under the bushes, and the sawflies emerge and usually lay their eggs on the leaves of the nearest bushes without flying any distance. Eggs are frequently produced parthenogenically, the male being comparatively rare.

Once this insect becomes established in a garden it will remain there, often only in one part of the garden, and if the larvæ are not destroyed they will recur year after year in ever-increasing numbers unless checked by an unfavourable season.

Spraying with lead arsenate in May is the first measure to take against this pest. At this stage the young larvæ will be feeding on the underside of the leaves, and it is therefore important to see that these are well reached by the spray. Arsenate is unsafe to use after the fruit is well formed,

however, and therefore hellebore powder must be used later. This may be mixed with flour and dusted on the leaves when damp, or the mixture may be added to water and applied as a spray, which is probably the better method. Hellebore is safe to use even when the fruit is fairly large, as it loses its poisonous nature in a few days, whereas lead arsenate should not be used within six weeks of picking the fruit. When the fruit is nearly ready for picking even spraying with hellebore is inadvisable, and it is possible to kill the larvæ when young with weak paraffin emulsion if thoroughly applied several times.

Where only a few bushes have been attacked it is a good plan to remove the soil underneath them to a depth of 3ins. or 4ins. during the winter and replace with fresh. The soil removed should then be burnt to destroy the pupæ it contains. If inconvenient to burn it, it should be deeply buried to prevent the emergence of the flies.

RAY PALMER, F.E.S.

THE RETENTION OF MOISTURE IN LIGHT SOILS

The long spells of dry weather in the summer of 1921 gave a good opportunity for observing the effect of different methods of culture in checking the drying out of the soil. Because such summers are the exception in the British Isles, it does not follow that it is unnecessary to prepare for their possible recurrence; the good gardener must arm himself beforehand against all possible extremes.

THE light soils in the south and east of England suffer in most years from minor spells of dry weather, because their general yearly rainfall is low and they are not well retentive of moisture. Before considering our cultural treatment, we must have a clear picture of what is happening in the soil. In autumn and winter the wet sinks in, gradually soaking in turn soil and subsoil, replenishing underground water supplies, till finally the surplus drains off into streams and deep springs; the moisture rarely evaporates from the surface owing to the low temperature and moist atmosphere, and the main current of the water is downwards.

In spring, winds and bright sunshine, in spite of showery intervals, dry the surface; seeds are sown, crops grow and drink thirstily; days grow warmer and longer, and evaporation increases. There comes a time, unless the season is a wet one, when the winter conditions are reversed, more moisture is lost from the soil than the rainfall can restore, and instead of water percolating downwards, it is drawn up from the subsoil to the surface, where it is lost by evaporation. During fine spells, in summer, plants are more and more dependent on subsoil water, which has to rise from lower and lower levels, as it is drawn on and not replenished, so that we notice how our surface soil dries out inch by inch to a greater depth. Hence, during a drought, in late summer and early autumn, the difficulty is not that there is no moisture anywhere, but that it is at such a depth that it rises more slowly than the plants will use it. A storm under these circumstances cannot saturate the soil to any extent, but it reaches the surface roots of plants, checks the loss of moisture, and gives the subsoil water time to reach the surface. A cloudy day alone, and evening syringing, economise the water supply by diminishing the transpiration of the foliage.

The object of our culture must obviously be, in winter to allow full opportunity for rain to penetrate the soil, in spring to get the surface soil sufficiently dry for a good tilth, and in all dry spells to retain an unbroken connexion between

subsoil water and the top spit, and some protection from evaporation at the surface.

The key to the situation is in the capillary (or hair-like) channels which enable the water to rise against the force of gravity in the same way in which moisture is sucked up by a piece of flannel, the lower end of which is dipped in water. Any loosening of the soil breaks up these channels (like dislocating a set of drain pipes, except that the channels go up and down and not horizontally). Digging has, of course, this effect, and in winter the large spaces it leaves between the clods of earth, make it easier for water to sink into the ground, which also holds more water in a loose state (and will as easily let it go again), and this is a help to the action of frost in breaking up the soil particles.

By the time winter is over and evaporation begins again from the surface, the ground below is packed, and the capillary channels have reformed. This is the stage when the treatment of heavy and light soils should differ, especially when the latter are in an area of low rainfall. The heavy soil requires thorough spring cultivation to break up clods and render it friable; not so the light soil. If this is worked up a good spit deep in the spring, as the gardener who prides himself on good cultivation will long to do, the March suns and winds rob the loosened soil of more moisture than it can afford to lose, nor is this all the mischief. There is another trouble, unseen and unsuspected. The light soil does not readily pack again like a heavy one, and it will be many months before the lower capillary channels reform, unless unusual wet supervenes. The surface, then, having lost its connection with the subsoil water, depends entirely on the summer rains, which are probably insufficient to keep it moist, and it "dries out" badly. This state of things is betrayed by the sponginess of the soil. Farmers overcome this by heavy rolling and gardeners tread the ground or pass a roller over it. In the garden my experience is that the firming does not affect the lower part of a disturbed 10ins. of 12ins., and a whole summer may pass before it consolidates.

During the season of 1921 I saw an illustration of this statement. A piece of land was trenched in

mid-winter and part was raked hurriedly over in spring and planted with herbaceous plants with no further preparation. (The ground had formerly been a grass field and was the site of a greenhouse, and this was the first time it had been worked up). These plants flourished exceedingly, even the moisture-loving *Lobelia cardinalis*, with very few waterings. A further portion, torked deeply in late spring, was dry and loose all the summer, and French Beans growing there in spite of the administrations of the hose, were barely kept alive.

Our first consideration, then, is to dig *early* in order to let the ground consolidate, and also to get as much moisture absorbed as possible. (The difficulty of ground occupied by winter crops will be dealt with presently.)

Secondly, in preparation of ground for seed-beds or planting, the soil must not be disturbed again to a depth of more than 3ins. or 4ins. (A Planet hoe will work it up to a very suitable depth.) If it can be avoided, no digging should be done in spring or summer. The surface should preferably be moderately moist before preparing for any crop, and on no account should dry top-soil be buried.

Thirdly, in spring a moderately fine, even surface should be aimed at (unlike rough winter cultivation). If lumps are not broken up when forking, they should be crumbled down with a rake before they get thoroughly dry and hard. Where there is a good deal of fine silt, the soil is likely to form a hard crust, and it should not be raked very firmly, nor should all the stones be removed. For seed sowing the largest must come off, but not in preparing for planting, except in very stony ground. Remember how soil is always moist under a stone.

Fourthly, unoccupied ground must be stirred whether it is to be cropped immediately or not. It forms a crust and cracks under the influence of March winds and sun.

Fifthly, plenty of humus must be supplied to light soils. The success in giving a good start to seedlings will depend largely on well decayed and finely divided organic material in the drills, or better still, evenly fixed with the surface soil. The residue from previous manuring is not sufficient of itself in a dry time. The best stuff to apply is dry one or two year old manure, leaf soil (thoroughly decayed) or some of the organic manures advertised as substitutes for farmyard manure. Soot should be stirred in with the organic dressing, and salt also for Beet, Carrots, Onions.

It is always recommended not to apply farmyard manure early to light soils. I do not see how it is to be avoided. The loss of ammonia I consider is compensated for by the property of the humus of holding moisture; strawy manure should be in a half decayed condition. Digging must be done early, and most crops require manure *below* their roots to encourage deep rooting. Potatoes may have manure worked in when preparing the ground in spring, and the ground will have to be worked deeper for them than for other crops. (They are an exception.) The plot for roots should be double dug and have manure well mixed into the second spit; as the rising of sub-soil moisture is checked by a wad of manure that is not mixed with the soil.

SUMMER.—The secret of summer cultivation is, of course, for all soils, the gospel of the hoe, the dry mulch of 3ins. loose fine soil being the best method of retaining moisture. A heavy shower consolidates this, the capillary channels reform and a hot sun may soon suck away and evaporate more moisture than the storm brought down. Light showers, like light waterings, followed by hot sun, do more harm than good, unless the surface is stirred again without delay as soon as it is friable. Every hour, the precious moisture is turning to vapour in contact with the hot dry air. Ground

that has a moist surface in sunshine is losing underground water. The matter, therefore, is urgent, moreover, if left too long unstirred, there is the added evil of caking and cracking, and young seedlings, especially, will be harmed if the surface flakes when hoed, instead of cracking. It is a very bad thing, also, to go to the other extreme, and hoe when the ground is so wet that it cuts in slices; there is no fine mulch, and a hard pan forms under the hoe. On trodden ground, as between rows of Peas, a light pricking over with a fork is better than hoeing.

Opinions are divided as to the use of manure or lawn mowings as mulches. In certain situations they are very valuable on light warm soils, as wherever hoeing cannot be done, and where roots are very near the surface, say for Strawberries, newly planted trees, Raspberries; they are sometimes applied with success, in a fine state, to Carrots. I believe great benefit would result from frequent light sprinklings of lawn mowings along rows of Carrots and Beet while young; such as would hoe in easily when dried. A drawback to the mulch is that in long dry spells, the mulch and the soil beneath it will get quite dry, and a shower of rain which might have benefited the roots of the plants, does not even wet through the mulch. A grass mulch requires adding to during the season, but in moderation. End of April or May is early enough to apply them, and the soil should previously be pricked up, cleaned and exposed to sun and air.

Moisture is saved in an indirect way by evening syringing and overhead sprinklings with a fine rose, and this is often more refreshing to plants than a watering. Insufficient waterings without hoeing, dry out the soil and burn the roots of plants, and it is better to hoe without watering than to water without hoeing. *Seedlings* for a time may need waterings every day, and in hot weather the only way to get over the difficulty of scorching is to shade during the day.

GROUND OCCUPIED BY WINTER CROPS.—Winter crops should be thoroughly gone over in autumn, cleaned and pricked up. As far as possible, the soil should be kept open between these crops to allow plenty of rain water to percolate and there should be no weedy ground in vegetable or flower garden, as weeds absorb the wet which ought to sink into the soil. Digging should follow as soon as possible on the finishing of the crop. On no account should the Cabbage tribe be left to flower. Once the flowers open the vegetable is of no further use, and they are great wasters of food and water when in bloom. To help in clearing the ground the latest Celery, Leeks, and heading Broccoli can be lifted and heeled in a shady place, as against the north side of a shed or wall.

Trenches for Peas are best prepared in winter before digging the rest of the plot, on ground previously occupied by Potatoes or roots. Cultivate two or three spits deep, with plenty of farmyard manure mixed into bottom layers, and some basic slag. The sites of the rows should be marked, and the whole of the plot afterwards single dug right through. If the trenches are not prepared till the time of cropping, they must have the lower levels well trodden as work proceeds.

The following table gives suggestions for cropping which avoids any deep cultivation after Christmas, except for Leeks and Potatoes:

<i>Autumn and Winter Crop.</i>	<i>Followed by</i>
Cleared before Xmas	Root crops } Do. } Onions } Double dug.
Late Broccoli	Celery
Celery	Peas—no other prep. but levelling every other row.
Leeks	Potatoes.
Winter Spinach	Seedling Brassicas—surface cultivation, soot and humus stirred in.
Spring Cabbage	June and July Carrots and Beet.
Savoy	Potatoes.

To sum up, the special features of treatment to conserve moisture in light soils are:

- (1) Early digging (before Christmas).
- (2) Shallow cultivation from spring onwards.
- (3) No rough surfaces once winter is over.

- (4) No hard crusts to be left unbroken.
- (5) Finely divided humus near the surface. For Carrots and Beet add soot and salt. For Turnips, bone meal is good at the bottom of the drills.

G. PRICE-DAVIES.

CORRESPONDENCE

WHAT IS A "HARDY" ANNUAL?

SUCCINCTLY a "hardy annual" is a plant of which seeds sown out of doors germinate, the plants blossom, ripen their seeds and die within a period of one year—not infrequently the life cycle is covered by three months. On page 181 "A. A."—one may be forgiven for assuming that the writer belongs to the gentler sex—indicts seed merchants on a baseless charge, since her "complaint" is not a "complaint," but a grumble—a complaint without a cause. The fact that the seedsman has printed on his packets of Clarkia, Godetia or any other "hardy" annual the words "raise in gentle heat" or "sow in a hot-bed in February" places the purchaser under no obligation to do so. The seeds are those of "hardy" annuals which may be sown in the open garden from the end of March onwards to the end of June with excellent prospects of success. If, however, the grower with the essential conveniences cares to

who, similarly to "A. A.," have accepted the "suggestions" as "instructions," and not having the necessary conveniences for indoor sowing have excluded many beautiful plants from their gardens in fear of failure. If it is deemed imperative that cultural directions shall be printed in seed catalogues and on seed packets—which, in view of the admirably lined pages of THE GARDEN and other publications, is widely open to doubt—it should be made quite clear that there are alternative methods of culture, each leading to success, from which growers may make choice according to their individual circumstances and surroundings.—W. H. LODGE.

DOUBLE BEGONIAS.

I SEND you a photograph of my Begonias last season which may interest some of your readers. Being purely an amateur's work and grown in a small space, we were very pleased with the



A CORRESPONDENT'S HOUSE OF DOUBLE BEGONIAS.

sow the seeds under glass much earlier in the season he or she is perfectly at liberty to do so. If the seedsman described a plant as a "hardy" annual and proceeded to say that the "seeds must be raised in gentle heat" or that the "seeds must be sown in a hot-bed in February" "A. A." would have a genuine, as against an imaginary, grievance, for the instructions would directly imply that the plant was a "tender" annual, Celosia pyramidalis and Torenia Fournieri to wit, but I have never known a seed merchant to give such explicit instructions on the seed packet of a "hardy" annual. While supporting the seed merchants against an unjustifiable indictment, one ventures to think that the constant recommendations to sow the seeds of "hardy" annuals under glass are unwise. That superior plants, which will flower earlier in the garden, can be raised from seeds sown in greenhouses and frames is undoubted, but I have known several amateurs

result. We placed the original tubers, early in the year, in shallow boxes containing equal parts of leaf-mould and maiden loam, with a fair proportion of sand. As soon as they commenced to shoot we potted them up, giving them subsequently two further shifts, paying careful attention at each removal to drainage. The final compost comprised good loam and leaf-mould with coarse sand. The plants were kept moist and shaded from the sun, and syringed well over night. The following year we propagated them by cutting the tubers with a sharp knife, dusting well with sulphur and laying cut side down in the shallow boxes. If a tuber is found in spring to be partly rotten, the better part can be saved in the same way. They are Blackmore and Langdon's wonderful strain, a particularly fine one being King Alphonso, but the whole range is wonderful. It is surprising that they are not even more largely grown.—K. DOWLING WALKER.

BORDER CARNATIONS FOR THE BORDER.

MR. A. CECIL BARTLETT'S article on the above subject which appeared recently (page 162) is certainly good in most respects, but I for one fail to agree with him on one important point, because from my experience of the last quarter of a century I consider the application of chemical stimulants at this or any season both unwise and unwanted. If the bed was properly made before planting took place—and there is no better place than that which was properly worked and manured for a previous Potato crop—I consider there is no necessity for stimulants, certainly neither sulphate of ammonia nor superphosphate.

The Border Carnation is not a rank or strong feeder, and such tactics as professional growers of the Perpetual-flowering sorts usually adopt to get their plants to bloom twice in the same year are not only detrimental but unwise when applied to the old Border varieties. As regards the matter of specialists' mixtures, Mr. Bartlett may be right if he is referring to "Perpetuals," but I fancy he would have a hard job to find any Border Carnation specialist offering such mixtures. No such ways, in my opinion, are necessary or advisable, at all events for "Borders" grown in open beds, and I question very much if it be right to adopt such ways for plants grown in pots. The effects of such feeding are soon shown in coarser flowers and "grass," consequently coarse and often diseased stock follow; I refer to fungoid diseases in particular.

There is to-day a strong tendency to believe that all plants grown in garden or field are the better for what is usually called artificial manure. Apart from the present expense of such manures—some of which I call soil wasters—I consider it timely that many of us should think of returning as far as practicable to more natural ways of cultivation; I mean the use of real manure and less "artificial." Some will perhaps say where are we to get the real stuff, I grant it is now more difficult to find, but if gardeners and farmers will adopt ways and means of finding as well as producing it, I fancy there is still a chance of getting a fair if not an ample supply.

My main contention is, put the stuff into the flower-pot or soil before you attempt to take it out, and above all allow Nature to do that. I am a disbeliever in forcing tactics and consider that there are few plants or crops that require extra stimulants during growth if the proper foundation has been laid. I go farther and say that there are many instances where extra feeding (either natural or artificial) is, to plants, practically poison; among such I class the Border Carnation, in fact the Dianthus family generally.

I do not mean to infer that I am against common mild ingredients and fertilisers, such as lime, soot and burnt rubbish (potash salts), which are more or less necessities. Bone meal, too, is a food which I do not call artificial; it is one which may be used with most plants, provided it is applied with discretion.—R. MORLEY, *Woodside Park, N.*

DWARF NASTURTIUMS AS POT PLANTS.

EVER since early in March we have been enjoying the brilliance of Nasturtium cloth of Gold flowering in size 54 pots in a slightly heated plant house. The practice is, I believe, rather unusual, but one worth copying where bright flowers are appreciated during the duller days and at small cost. It came about in this wise. Some seed was sown in an outside narrow border that, owing to the abnormal season, proved too dry to effect germination until quite late in the autumn

Knowing then it was too late for the plants to make sufficient growth to flower before frost would spoil them, the small seedlings were taken up and potted as already mentioned. Of course seed could be sown direct in pots in early autumn, growing the plants on in a cold frame until compelled by the cold weather to take them in a warmer place; but I am not sure if sowing in the open and then potting the seedlings would not make sturdier plants because their removal would check long, tapering roots and tend to produce a more fibrous mass of roots. At any rate I make this suggestion so that anyone disposed to try a few pots of dwarf Nasturtiums for winter flowering may adopt whichever method appeals. Of one thing I am certain, floral gayness in the greenhouse in winter cannot be achieved by a more economical and simpler plant to manage than the Nasturtium here cited, while it also affords a good range of colouring.—C. T. *Amphill.*

[A correspondent at Lingfield sent the Editor for his table a few weeks ago really beautiful sprays of Tropæolum Lobbianum, which proved very lasting. There is no doubt that the so-called Nasturtiums are not grown for indoor decoration to the extent they should be.—ED.]

DAME DAFFODIL.

What! Here again, Dame Daffodil,
Aid in your gown of silken twill.
And stomacher, and gauliered frill?
You take my breath, Dame Daffodil!

And that grand air, Dame Daffodil!
You flick your fan with such a skill,
I tear me you are out to kill
A host of lovers, Daffodil!

To see you dancing, Daffodil,
There, by the stream that turns the mill—
Jig, minuet, gavotte, quadrille—
Is heart's delight, Dame Daffodil!

Who makes the music, Daffodil—
The jet-black bird with the orange bill?
Not his the run, the shake, the trill,
But the Lark's I think, Dame Daffodil!

Who is the Wooer, Daffodil,
Comes hither dancing from the hill?
Hang not your head—I think no ill
Of you and the West Wind, Daffodil!

Come, tell me, tell me, Daffodil,
What says the West Wind, so to thrill
Your pulses, and so full to fill
Your Cup with gladness, Daffodil?

Ah, well, dance on, Dame Daffodil,
You and your West Wind! Dance until
You dance your dance, if dance you will,
Above my head, dear Daffodil!

SOMERS.

ALPINES AND ELEVATION.

I WAS grateful to "Hortulanus" for suggesting that another reason why many alpine plants descend to lower elevations on more southern ranges than they usually do on the high Swiss Alps, is because, as in Britain, "many do not ascend to the top of the mountains, but choose a place lower down where they can get a more continuous supply of moisture and, at the same time, get shelter from the hurricanes of wind which frequently prevail." It happens that to-day, April 17, comes a letter from my friend, George Flenwell, who is now living at Locarno and enjoying the "sub-tropical vegetation" and other amenities of the beautiful Lago Maggiore. He says: "My wife and I were in Italy recently. We went to Varese. Although that district is further south than Locarno, its vegetation was far

more backward and far less 'sub-tropical.' [Of course, the sub-tropical vegetation at Locarno has been introduced.] We came across crowds of Snowflakes growing in the open; whereas in Switzerland I have never seen this hulk except in damp and shady gorges. Also the woods near Varese were wonderfully attractive with masses of Erythronium, scattered among the Hepatica, Primrose, Daphne and Scilla. Very gay indeed upon the peculiarly brick-coloured *débris* of rock. I believe a very interesting subject for our paper would be some official explanation of certain alpine vegetation descending to a lower level on this southern side of the Alps than it does on the northern side. Why should that be? Why should greater heat not drive it higher? For the same reason, I presume, that *Gentiana verna*, in Ireland, is found down by the sea. But what is that reason? Could you at your leisure help me to some reasonable and interesting remarks and information upon that subject?" Had Mr. Flenwell seen the recent notes in THE GARDEN on this subject he would have told me. It is a mere coincidence. He wants the information for the *Journal des Etrangers* of Locarno. It is a remarkable publication of its kind, beautifully illustrated by Mr. Flenwell and with charming photographs; while the Easter number contains a most readable article by our friend, Henry Correvon, "In Lovely Canton Tessin." Any further comments upon this question would be appreciated.—H. STUART THOMPSON, *Bristol.*

NOTABLE NEW DAFFODILS.

THERE were very few outstanding flowers at the Daffodil meeting at Vincent Square on April 11, but of course the weather previous to the Show had been of such a cast-iron nature that good flowers were hardly to be expected. The following are all that I spotted personally, but I will not warrant that no good thing was missed: White Nile (Chapman), a distinct and attractive giant Leedsii, segments pure white, slightly pointed and of fine waxy texture, cup long, rather cylindrical, pale lemon, passing to white. Golden Pedestal (J. L. Richardson, Watford) is a giant Incomparabilis of very perfect shape and uniform bright clear yellow; perhaps the best flower in the hall. Magog (Donard Nursery Company), a very large golden yellow Daffodil of the King Alfred type, but larger; a really fine decorative variety. Silver Chimes, a Tazetta variety of triandrus origin, perianth white, cup pale lemon, many flowers per stem, very sweetly scented; this was exhibited by Mr. J. C. Martin of Truro. Nevis (Chapman), a very beautiful white trumpet, much in the way of White Emperor.—J. DUNCAN PEARSON, *Lowdham, Notts.*

LATE SEED SOWING.

A GREAT many gardeners will be forced this season to sow their seeds late, and some amateurs may be lamenting this, so, for their consolation, I write to give my own experience in this matter. Years ago, when I was an even more foolish amateur than I am still, I used to try to get most of my seeds sown before the end of March with the result that I generally had to sow a great many of them again in April. Now, though this may serve the seedsmen, it does not suit my depleted pocket, and besides, it entails a waste of labour—an ever present consideration in these days of "unemployment" and scarcity of workers! Moreover, time and again I have observed that the later sown seeds, which come up when frosts are past, soon overtake and surpass in vigour earlier sown plants which have received checks that more or less spoiled their appearance and stunted their foliage and growth for the season.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Leeks.—Plants raised under glass in January, having been carefully hardened off, may now be placed in their permanent quarters. Planting may be done on the level or in holes made with a stout dibber, or in trenches prepared as for Celery. In either case the soil should be well enriched and be of a good depth, as Leeks appreciate and repay good treatment. When surface grown, allow about 18 ins. or 20 ins. between the rows so that sufficient soil will be available for pulling up to them to assist blanching.

So now my practice is to trust for early flowers to self-sown ones of the previous summer and make my "regular" sowing somewhat like my father's "regular train" to town when we lived at Surbiton. One morning when I arrived down to breakfast (at which meal I have ever been a certain "donkey-race winner") I found there was some friction about breakfast having been late for several mornings. (Of course, I had not observed nor complained of this for the above mentioned reason). Father said he could not catch his "regular train" if breakfast was late. Said mother, with the air of one seeking information, "I should like to know, Joseph, what time your 'regular' train goes?" Replied father, with that roguish look, which he well knew always disarmed mother's displeasure, "My regular train is the 9.50, but I generally go by the 10.20." My "regular" seed sowing is early in April, but gets finished some time in May.—ANNE AMATEUR.

A CORRECTION.

THERE are two errors in my note on page 168 of THE GARDEN, April 8th. Firstly, an obvious misprint, the name of the island is given as "Chirs" instead of Chios. Lower down "Bonner says" should read "Boissier says." My object in drawing attention to these is to make it clear that the mistakes do not occur in Mr. Elwes' letter, from which I quoted.—W. P. MOORE.

CHEAP TICKETS FOR CHELSEA?

WITH reference to the forthcoming R.H.S. Show at Chelsea, would not it be possible to approach the various railway companies with a view to the issue of special cheap tickets. Even if at the rate of the usual week-end tickets, they would, if available for the three days of the Show, be very welcome. In many gardens wages are at a very low level, but I feel sure many would take advantage of cheaper fares if available. Gardeners, and others interested in horticulture, living outside the Home Counties are the ones chiefly concerned.—(Miss) B. GILBERT.

DAFFODILS IN INFORMAL PLANTING.

I HAVE read with much interest the article on Daffodils in THE GARDEN for April 15. My own experience may be of interest. The field above and the field below this house were yellow with Daffodils every spring in years long gone by. As the population increased they gradually disappeared. The flowers were plucked in bud, and one by one the plants were dug up. As they were no longer of any value to the neighbourhood, I took up most of those which remained and planted them, many years ago, in my garden in a piece of rough grass with an area of about 250 square yards. They have increased year after year and have been a great delight. Last year they flowered very badly, but this year they are marvellous. We can safely estimate that there are at least 25,000 flowers. It is interesting to observe among them a number of self-sown crosses—crosses apparently with Emperor, Golden Spur, the Tenby Daffodil, and one or more of the bicolors. I am half sorry, however, for these crosses, because I do not agree with your correspondent in preferring the beautiful large kinds to our native Daffodil for wild gardening. The fields are very dry. The Tenby Daffodil is not princeps, is it? I thought it was very different.—F. A. STURGE, *Coed Efa, near Wrexham.*

[The Tenby Daffodil is, of course, *Narcissus obvallaris*, not princeps, as inadvertently stated in the article in question.—ED.]

Kohl Rabi.—This turnip-like vegetable may be sown any time after March, but a good time to make a general purpose sowing is about the end of April or early May. From this sowing roots are available for late summer and early autumn usage, and when roots are in late demand two more sowings should be made at intervals of about six weeks. The drills should be 18 ins. apart and when the plants are finally thinned they should be about 6 ins. from each other. To avoid waste, only partial thinning should be done at first, which will allow some of the young roots, really swollen stems, to develop sufficiently to use as the final thinning takes place.

Seed Sowing.—Late Brassicas not yet sown or not in sufficient quantities, should receive attention now. It is always advisable to have an abundance of such plants to choose from. Such a sowing now would include Sprouting Broccoli, Savoys, a selection of Kales and Portugal Cabbage. To those who have not previously tried the Russian Kale, it is well worth such a trial, for the young sprouts which spring up in abundance in the centre of each plant after its heart-like middle has been cut are quite as delicious as some of the Kales.

The Flower Garden.

Herbaceous Borders.—A beneficial operation, where time can be found for it, is the thinning of weakly superfluous growths, thus allowing of a better development of the remaining stems. This practice is obviously hardly necessary with newly planted or freshly divided clumps, but applies more particularly where no such work has been carried out for some years. Particularly ought this overcrowding of growths to be mitigated in such plants as Phloxes, Perennial Asters, Chinese Paeonies and Heleniums.

Dahlia.—The stools of these plants still in resting quarters may be planted now, for by the time such growth is in evidence danger from damage by frosts should be past. Where the stock has been increased by division, cuttings or seed, such should be nicely hardened off previous to planting out.

The Tree Pæony is the first of this family to open its flowers and sometimes in early May, when the buds are unfolding, a sharp frost on one or two nights may considerably mar if not entirely spoil the beauty of the blooms. Where sufficient shelter is not provided by the surroundings a few tall stakes should be arranged for to carry a piece of canvas and thus avert or at any rate greatly reduce the danger. The large gorgeous blooms of this plant are well worth trying to save.

Polyanthus require a long period to develop into strong flowering plants, so where an increase of stock is contemplated seed may be sown now. Sow in boxes of light sandy soil and place in a cold frame or sow directly into a prepared bed in the frame. Shade from sunshine and keep at all times uniformly moist, and when the seedlings are large enough to handle, prick out in good soil on a cool border where they can remain until required for their flowering positions.

The Hardy Fruit Garden.

Disbudding.—This work should be carefully carried out and may be begun as soon as the young shoots are an inch or so in length. With trees which mainly carry their fruit on the young wood of the previous year, such as Peaches and Nectarines, first care should be given to the selection of those shoots which will be retained for this purpose. A well placed basal bud, preferably on the top side, is the main one to select and a couple or so others may be left at intervals, and a leader. Much will depend upon the tree and aim of the cultivator. Strong water shoots should not be encouraged, but where such accompanies a fruit should be pinched at the second leaf, otherwise rubbed off, with the possible exception of one below the chosen growth at the base, which, treated spur fashion, will often yield a good fruit. It cannot however be advised to carry the spur method to much extent on such as

Peaches and Nectarines trained on walls, etc. The Morello Cherry also may be treated in like manner to the above, although it must be admitted in this case that excellent crops may be obtained from a spur trained tree and this method is adopted by some growers.

H. TURNER

(Gardener to the Duke of Northumberland,
Albury Park Gardens, Guildford)

FOR NORTHERN GARDENS.

The Kitchen Garden.

Peas.—To ensure regular supplies of Peas from June until October, sowings should be made every ten days or so. The Giant Marrowfats give the most satisfaction, but care should be taken not to sow too thickly in the rows. On ground which is light or gravelly, shallow trenches should be resorted to, with well rotted dung and plenty of decayed material from the compost heap incorporated at the bottom; this is rich in humus and Peas revel in it. Where the trench system is adopted, surface dressings are more usefully applied during the season.

Planting Onions for Large Bulbs.—Onions raised under glass will now have been duly hardened with a view to transplanting in the open at this time. One of the essential points in growing large bulbs of this highly prized vegetable is to have the ground in the highest possible state of cultivation. Ground that has been double dug and richly manured during the autumn, and which has been subjected to the mellowing influence of the weather, will suit the crop well. Fork lightly over and give a good surface dressing of wood ashes and soot. Mark the ground off in rows 15 ins. apart and allow 6 ins. between the plants in the rows. Retain as much soil as possible on the roots when planting and do not plant too deeply.

Potatoes.—Early varieties which are through the ground should be protected when danger of late frosts is likely. If the haulm is only showing, the soil should be drawn lightly over them. If further advanced, some feathery Spruce branches laid down the rows will afford the necessary shelter. Complete the planting of late varieties at the first opportunity.

French Beans.—Where there is a cold frame to spare, a sowing of this desirable vegetable may now be made and thus relieve congestion in the houses. Sow seed of a free-bearing sort, with a sturdy habit of growth. Sow the seeds in rows 18 ins. apart. The dwarf Butter Bean may also be sown in like manner and will be found an excellent sort both for quality and quantity.

The Hardy Fruit Garden.

Black Currants.—Inspect the bushes to see if "Big Bud" is present. If the disease is at all prevalent in the vicinity it may be noticeable at any time now, hence the need for vigilance. When this disease is detected, cut off the infected parts and burn them. By doing this the plantation, if not exactly cleared of the disease, may be kept free for a considerable period.

Fruit Under Glass.

Early Vines in Pots.—Where the fruit is swelling the vines should be regularly supplied with stimulants, so that no check may take place. If the pots allow for such, give a good mulching of cow manure, as this encourages additional roots and has a beneficial influence on the ultimate finish of the bunches.

Maincrop Muscats.—The night temperature of the Muscat house should now range from 65° to 70° and during the day from 75° to 80°. Admit air when the latter temperature is reached. Muscats revel in strong heat, especially when approaching the flowering stage. When in flower attend to the fertilising, also keep the atmosphere to the dry side until the fruit is set.

Orchard Houses.—Keep a watchful eye on the trees to see that aphid does not get a hold. Keep the syringe going freely on trees that are set. With additional sun heat added care must be taken when watering to see that none of the trees suffers from dryness at the root. A check just now, when the fruit is newly formed, may prove fatal, so far as this season's results are concerned.

The Flower Garden.

Pentstemons raised from cuttings and having been well hardened off may now safely be transferred to their flowering quarters. To obtain the finest results from these choice plants the ground should be fairly rich and moderately heavy. The

Pentstemon proves an adaptable plant for grouping in the mixed border, the small flowered Newbury Gem being specially suitable for this purpose.

Antirrhinums which have been raised from cuttings should also be planted out now.

Sowing Hardy Annuals.—If it is the intention of the cultivator to sow hardy annuals, no time should be lost in having the beds or borders put in readiness for sowing. When judicious selections are made and the plants wisely grouped, hardy annuals cannot fail to give satisfaction, especially if the soil is to their liking. Light loamy soil suits them best. To sow on cold clayey soil often results in disappointment. This difficulty, however, may be overcome by giving the site a surface dressing of old potting soil. Assisted in this way germination is more regular and slugs are less troublesome.

JAMES McGRAN.

(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

GREENHOUSE AND CONSERVATORY.

Leonotis Leonurus (Lion's Tail).—This handsome plant is very useful for autumn flowering in the greenhouse, and should be propagated by means of cuttings at this time, as it roots readily in a close case in a cool greenhouse. The young plants should be potted on as they require it and do well in ordinary potting compost. Good specimens require 8in. pots in which to flower, and should be stood outdoors during the summer months, giving Chrysanthemum treatment. They are subject to attacks of red spider, therefore a free use of the syringe is necessary.

Agapanthus umbellatus is an excellent plant for the cool conservatory or for standing outdoors in tubs for autumn flowering. They have a large and strong root system, so require liberal treatment, as they often fail to flower in a satisfactory manner through lack of frequent division. Now is a good time to divide plants that are overcrowded. Large tubs are best to plant them in as they are very apt to split their pots. There are several varieties of this plant, and in addition to the white variety, there is a large variety, known as maximus, with pale blue flowers. Agapanthus Mooreanus is a beautiful plant, much smaller than A. umbellatus, while A. Mooreanus var. minor is excellent for the conservatory stage if grown in small pots or pans.

Astilbe simplicifolia is generally regarded as a hardy plant, but its behaviour outdoors is frequently not satisfactory, though it makes a very charming plant for the cool greenhouse. The plants, as they start into growth, may be divided and repotted, 5in. pots being a suitable size. I find they do best if stood in a cold frame with a north exposure, giving them liberal supplies of water at the root when they are well established.

Saxifraga Fortunei is another hardy plant which is excellent for autumn flowering in the cool greenhouse. It succeeds under the same conditions as indicated for the Astilbe. Outdoors it flowers so late that its blooms, unless protected in some way usually get damaged by frost.

Saxifraga sarmentosa, if well grown in 48-sized pots, proves very charming for the cool greenhouse; it is also very useful as a basket plant. The variety tricolor is very beautiful, but requires a warmer house, an intermediate temperature of some 50° to 55° suiting it best in its younger stages.

Nertera depressa, the so-called Fruiting Duckweed, when covered with its coral-red fruit, is very beautiful in small pots or pans, and as it is nearly hardy it only requires the shelter of a cold frame.

Pilea muscosa (the Artillery Plant) is very useful for edging groups in the greenhouse. If four shoots some 4ins. in length are dibbled into 4in. pots useful plants are soon obtained, as they root readily in a warm house, it not being necessary to put them in a propagating case.

Propagating Hard-wooded Plants.—Now is a good time to insert cuttings of such plants as Heaths. The soil should consist of fine peat and sand, which should be rammed very firm. The pots or pans should be dry and clean, and have ample drainage, i.e., half filled with drainage material. Erica cuttings should be made from small twiggy shoots about 1in. in length; young growth firm enough to prevent damping off is best, and great care must be exercised in trimming off the leaves. The gardener with some experience can pull off the leaves, and this is really better than trimming them with a knife; but Epacris must be trimmed off, taking great care to not tear the bark. The above remarks apply to most of the so-called hard-wooded greenhouse plants; small twiggy growth generally rooting more readily

than large and stouter pieces. When dibbled into the cutting pots the cuttings should be well watered and the can should have a fine rose on it. Allow the pots to drain for a short time before they are covered with the bell glasses. The cuttings are best placed in a case in a cool house and the glasses should be removed and wiped dry every morning. With some practice most of the hard-wooded plants can be successfully propagated in this way. Correa cardinalis and the choicer varieties of Correa speciosa are grafted on stocks of Correa alba. The same stock is also used for the various species of Eriostemons, also for Crowea saligna and C. angustifolia. Some of the choicer Grevilleas that are difficult to root successfully can be grafted on seedling stocks of Grevillea robusta.

J. COUTTS,
Royal Botanic Gardens, Kew.

Holland's Gayest Season.—The well known Dutch bulb house of Anthony C. van der Schoot, Hillegom, Holland, informs us that the best time to see Hyacinths, Tulips, Narcissi, etc., in full flower will be from about April 25 till the first week of May. Boat-trains from London (Liverpool Street Station) for Harwich run every night at 8.30 (except on Sunday), and the steamer arrives at Hook of Holland about six o'clock in the morning. The bulb farms are a fine sight at this season.

A Useful Sprayer.—The Editor has had under trial a spraying syringe especially designed for the amateur with a small garden to whom an expensive instrument is disproportionately costly. This new tool, which is called the "Villa" sprayer, is, despite the low price, thoroughly effective and well made. The nozzle is not detachable, which, of course, necessitates a little extra trouble in case of a stoppage, but with care this should not happen and experiment proved a clearance not to be really difficult. To sum up, this small but strongly made appliance can be thoroughly recommended as exceedingly useful and wonderful value for money.

Edinburgh Botanic Gardens.—In our last issue we referred to the retirement of Sir Isaac Bayley Balfour from the post of Regius Keeper of the Botanic Garden at Edinburgh. We now learn that His Majesty the King has approved the appointment of Mr. William Wright Smith, M.A., F.R.S.E., F.L.S., as Regius Keeper, and also as Regius Professor of Botany and Professor of Botany in the University of Edinburgh. Mr. Smith also becomes King's Botanist in Scotland. Mr. Smith has held many important scientific positions, and he joined the staff of the Royal Botanic Gardens, Edinburgh, as deputy to Sir Isaac some years ago. Mr. Smith will be heartily congratulated on his appointment. In his capable hands the good work done by Sir Isaac should be not merely maintained, but amplified.

Messrs. Alex. Dickson and Sons' Dilemma.—The entire seed business in Southern Ireland of Messrs. Alex. Dickson and Sons, Limited, has been confiscated by the Boycott Department of the Irish Republican Army. On the afternoon of Tuesday, April 11, armed raiders took possession of the metropolitan establishment of the firm, situated at 61-63, Dawson Street, Dublin, carried away all the books of the Company, and ordered the business to be closed down. Orders in course of execution were not even allowed to be completed, and all the Company's book debts and stock-in-trade are at the disposal of the Republican Army. The business is completely paralysed and in a state of absolute chaos at the moment. Under these trying circumstances Messrs. Dickson ask for the kind indulgence of their customers in England, Scotland and Wales, and request that all communications pertaining to the Dublin house should be directed to the Northern headquarters at Hawmark, Belfast. A claim has been lodged with the authorities for damages, amounting to £50,000.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—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.2. 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.

FLOWER GARDEN.

AMARYLLIS ATTACKED (G. H., Huntingdon).—The red tinge to the leaves of the Amaryllis is in all probability due to the presence of bulb mite on the bulbs. This can probably best be dealt with by immersing the bulbs in water at a temperature of 110° Fahr. (not more nor less) for an hour.

VARIOUS PLANTS FAILING (R. E., Birmingham).—The trouble with all these plants has in all probability the same origin. Something has been wrong with the water supply during some critical part of their growth. It may be that they are over-watered; it may be that they are allowed to become too dry; and it is quite likely the effect is produced by something acting months before the symptoms are seen. None of the plants mentioned by our correspondent must be allowed to become actually dry at any season. It may, of course, be that the roots are unhealthy and cannot do their work.

NATURALISING DAFFODILS ("Leamington").—The sites of bonfires in the woodlands would be excellent for planting groups of Daffodils as these would be fairly clear of gross weeds and the ashes will have greatly improved the soil by reason of the valuable potash that has been formed. Of the trumpet Daffodils that are reasonably cheap we suggest Emperor, Golden Spur and Maximus of the yellow sorts; Mrs. Thompson, William Golding and Madame de Graaf of the white trumpets; Empress, Horsfieldii, Princes and Glory of Noordwijk of the bicolor trumpets.

TREES AND SHRUBS.

PROPAGATING CYDONIA (PYRUS) JAPONICA (D. C.).—It is now too late to insert cuttings with any hope of success. The best time is in the autumn, when shoots may also be layered. The salmon pink varieties flower during March and April according to the season and locality, contemporary with the old scarlet species. These handsome flowering shrubs do not require the protection of a wall and may well be used for forming a garden hedge, a method we have often recommended in our columns.

RHODODENDRON QUESTIONS ("Lemington").—The best treatment of the young Rhododendrons that are too "leggy" would be to replant them rather low. They would then root out from the stems. The best manure to promote luxuriance of foliage would be a mixture of leaf mould and stable manure. This could be used freely as a top-dressing and also mixed with the soil when planting—one third of this would not be too much. Well charred wood, which is practically charcoal, from forest fires could with safety and to advantage be used. Rotten wood, if used at all, should be with caution.

THE GREENHOUSE.

NERTERA DEPRESSA NOT FRUITING (F. W., Chislehurst).—To induce the flowers to set and form fruits the plants should be placed in a cool, airy temperature as soon as the flowers begin to expand. Previously to this they may well be kept in the shady corner of the warm vinery. This little plant objects to bright sunshine at any time.

COLOURED FREESIAS (C. H. R., Stirlingshire).—Seeds of coloured Freesia may be obtained from Messrs. Sutton and Sons, Reading, and it will be found that quite a satisfactory proportion come good. The shades usually range from yellow to bronze, bronzy-pink, deep rose and mauve. These coloured Freesias are as vigorous as the older types and if grown moderately cool are most pleasantly fragrant. Seeds may be sown now. We are glad to learn that such success was obtained through the cultural instructions in our "Gardening of the Week."

CLIVIAS (J. H. H., Jersey).—We quite agree that much more satisfaction is obtained by growing the best available strains of all plants and particularly those which require glasshouse treatment. Really good varieties of Clivia may be obtained from Messrs. Cibrans, Limited, The Nurseries, Altrincham, or Messrs. L. R. Russell, Limited, The Nurseries, Richmond. Clivia Countess Bathurst which received the R.H.S. cultural commendation last year was shown by the Earl of Bathurst from his gardens at Cirencester Park.

MISCELLANEOUS.

GRUBS FOR IDENTIFICATION (E. D., Suffolk).—The grubs sent are those of a species of Bibio, one of the larger two-winged flies known often as St. Mark's flies because they appear about St. Mark's Day. The flies themselves do no damage, but the grubs sometimes attack the roots of plants when their usual food—decaying vegetable matter—is not available. The usual cultivation of the garden—digging, hoeing, etc.—will turn them out for birds to eat.

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Agricultural
College

ORCHARD

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SOME LESS COMMON SPRING-FLOWERING BULBS

Of spring-flowering bulbous plants suitable for informal planting only the Narcissi are used to an extent at all proportionate to their merits, while even for formal beds and borders many excellent kinds are much neglected.

ONE of the quaintest of native plants is surely the Snake's-head, *Fritillaria Meleagris*, with its curious contorted habit of growth, albeit against the time the flowers open the stems are as straight as the proverbial ramrod. The *Fritillarias* not only belong to the Lily family, they are so close to them botanically that with some species the classification is so difficult that they have at various times been placed in both genera! The mottled brownish purple straight-sided bells of the Snake's-head are probably known to most gardeners, but there are numberless gardens in which they cannot be found, which is a pity. They are of the easiest culture, growing in border or rocky either in full sun—not on a sun-parched bank—or in partial shade, but they are perhaps seen to greatest advantage under light shade of trees or bushes. They reproduce themselves very freely from self-sown seeds. The bulbs as collected vary considerably in flower colour, and quite a colour range has now been selected. Two excellent and substantial-flowered varieties are called *Orion* and *Cassandra*, but ordinary seedlings answer admirably for most purposes. There is an albino form which has been so largely propagated in Holland that it is now as cheap as, if not cheaper than, the typical form. Other interesting *Fritillarias* with claims on garden room are—in addition to the quaint old-fashioned *Crown Imperial*, *F. Imperialis*—the yellow-flowered *aurea*, the purplish *pyrenaica*, the various purple *camschatcensis*, the deep yellow *pu dica*, and the pink-flowered rather tall *macrophylla*, but none can, in the writer's judgment, compare with the common Snake's-head for grace and charm.

Flowering at the same season—late April and early May—the *Dog's Tooth Violets* (*Erythronium*) are

also particularly charming plants which no garden should be without. As native woodland plants they are invaluable for half-shady corners in a wild garden or, in a compost containing a good proportion of leaf-soil, a cool exposure in the rock garden. The American varieties are usually supposed to be more difficult to establish than the European ones, but this has not been the writer's experience. Where large quantities are needed for massing the true old *Dog's Tooth Violet* will probably be employed, since it is plentiful and cheap, but where a modest beginning is to be made some of the finer forms should be purchased. Two indispensable ones are *grandiflorum* *Pink Beauty* and *californicum* *White Beauty*. Both have beautiful foliage, and the flowers on established plants often reach 3½ ins. across on stems 8 ins. to 10 ins. tall. No stove plant produces more truly beautiful blossoms or more elegant foliage than these. Other fine American kinds are *Hendersoni*—inferior, however,

to *Pink Beauty*—*Nuttallianum* with clear yellow flowers, and *Johnsoni*, a beautiful rose species. The common *Erythronium* of Canadian woodland—*E. americanum*—is, not only under cultivation but even in its native habitat, a shy bloomer, so should be eschewed. Once happily established even the named varieties, such as the two "Beauties," reproduce themselves true from self-sown seeds.

Scilla sibirica with its brilliant blue flowers all gardeners will know, but it is not used as freely as it might be either for bedding or naturalising. It flourishes under turf as well as the pasture-loving *Daffodils*. There has long been a pure white form, and there is now a pale one—*pallida*—but many will consider the colour of this a little too enfeebled to be effective. If the common *Bluebell* of our woods—*Scilla nutans*—were an exotic, it would no doubt be bought by the thousand for mass planting, but as most folk like to make a distinction between woodland

and garden planting it is only necessary to remind readers of the beauty of the pure white form and the worthlessness of the dirty lilac one which is misnamed "pink." The *Spanish Squills*, *S. hispanica*, so similar in appearance and yet so different, are more largely grown than our beautiful native, but they are far coarser and less graceful.

Uncommon bulbs do not necessarily belong to a genus ill-represented in gardens. The *May and June flowering Bearded Irises* are at present among the most popular of garden flowers, but some of the smaller but not less beautiful species are still too rare in gardens. Such are the early and delightful *Iris reticulata* in its livery of royal purple and gold, and its still earlier form *Krelagei* which flowers in February, the golden yellow *Danfordiae*, and the pale lilac *persica*. These will succeed



AN UNCOMMON RELATIVE OF THE SNAKE'S-HEAD, *Fritillaria pudica*.



THREE TYPICAL ERYTHRONIUMS.
Left to right *Hendersoni*, *Nuttallianum* and *White Beauty*.



THE CHARMING ANGEL'S TEARS—NARCISSUS TRIANDRUS.

in sharply drained soil even under thin turf, but they probably show to best advantage in the rock garden. Lest the omission be remarked, it will be well to refer to the beautiful *N. unguicularis* (*stylosa*) and its forms, with the nearly related *N. cretensis*. These are, however, fairly widely grown where climate permits; unfortunately, these beautiful plants are by no means over-hardy even in the Midland Counties.

As it is with Irises so is it with Narcissi. There are many gardens with thousands of long-trumpeted Daffodils, with Narcissi—*incomparabilis*, *Barrii*, *Leedsii* and *poeticus*—well represented, in which the beautiful Angel's Tears (*N. triandrus*) cannot be found. It may be urged that it is not the easiest of plants to grow, but this reproach can hardly be levelled at the now fairly numerous triandrus hybrids. Even the typical plant, however, is not difficult planted in a westward sloping, rather peaty, stony bed or moraine. The chief requirements of the beautiful *N. cyclamineus*, and the equally lovely *N. Bulbocodium* and its varieties *citrinus* and *monophyllum*, are shelter from winds, which destroy them, and a situation where their delicate beauty may be appreciated near at hand. Two exquisite Spanish species deserve wider culture, the primrose *Johnstoni* Queen of Spain and the white trumpet *moschatus* of Haworth.

No one would suggest that the Crocus is uncommon in gardens, but it is doubtful if even the ordinary Dutch varieties are generally used most advantageously, for, like the Daffodil, the Crocus is seen at its best when used boldly and in as natural a manner as possible. The Crocus species have, almost without exception, more grace and beauty than the Dutch sorts, but they are comparatively seldom met with, though their culture presents no difficulty. Of spring-flowering species the best are *biflorus* *Weldenii* *albus*, white, with a conspicuous red stigma; *Imperati*, violet; *Sieberi*, soft lavender; *Tom-masmanus*, pale lavender; *susianus*, golden yellow; and *versicolor*, white, feathered purple.

It is doubtful if the Grape Hyacinth, *Muscari botryoides*, can truthfully be called "less common," but it may safely be asserted that it is not, in general, grouped with sufficient boldness to make it really effective. Masses of these flowers in shrubbery openings and such like are extraordinarily effective. The beautiful *Heavenly Blue* is, of course, noteworthy, but its long grassy foliage at flowering-time at once differentiates it from the typical plant.

The Glory of the Snow (*Chionodoxa Lucicæ*) has been much more grown and appreciated of late years, but one seldom sees the equally beautiful pure white form, the deeper bloomed *C. sardensis*, or the solitary but large-flowered *C. gigantea* with its azure saucers uplifted to the sun. All these are excellent for the rock garden where their display in early springtime is especially welcome. They may be interplanted among plants which develop their foliage later in the season—among *Aquilegia alpina*, for instance, or *Aubrietias*.

The Tulip species have many of them a grace of blossom unusual in the florists' kinds. Speaking generally, their principal requirement is thorough ripening of the bulbs in summer, best assured in our climate by giving them a south aspect on a rockery or sloping ground. The best known is probably *T. Kaufmanniana*, with large cone-shaped flowers of ivory and red with a beautiful deep orange centre. The April-flowering *Greigi* bears orange scarlet flowers of huge size. It is noteworthy, too, for its handsomely marbled foliage. *Tulipa saxatilis* bears three or more flowers on a stem. Its starry blossoms are pink with a yellow base, and well display the chocolate-coloured anthers. *T. sylvestris* with yellow flowers is the wild Tulip so useful for the wild garden. Very different from the large-habited *T. Kaufmanniana* and *Greigi* are such species as *ingens*, quite dwarf, but with flowers of a brilliant red colour; the *Lady Tulip*, *Chusiana*, with small flowers, white, flecked and striped with rose and a conspicuous violet basal disc; *linifolia*, scarlet, with an almost black base; and *persica*, which usually carries its flowers in threes, golden yellow within, bronze without. The charming crimson flowered (rose externally) *primulina* is less easy to grow than most, but very charming and distinctly fragrant.

THE EVER-IMPROVING RHODODENDRON

THE popularity of Rhododendrons is greatly on the increase and the many expert workers at present devoting their attentions to the species and hybrids of the genus will eventually, without doubt, practically revolutionise the quality of these wonderful plants for our gardens. Unfortunately the climatic conditions of the great homes of the genus differ very greatly from that of our country and excepting in Cornwall and other favoured places, many of the species and hybrids are too tender for successful outdoor cultivation. On the other hand, if as much attention were paid to these shrubs as is given in many gardens to bedding out plants and such like, the cultivator would be astonished at the results

Heavy mulchings of good leaf mould, or if not available, then 6ins. to a foot deep of freshly fallen hard-wood leaves placed over the roots will conserve moisture and provide food. Also pieces of rotten wood placed on the surface eventually form tit-bits. During the growing period, if a drought is experienced, copious waterings should be given once or twice per week, but these waterings must be thorough. Sprinkling a small quantity of water on the surface merely tends to bring the roots to the surface. Strong gales from any point of the compass must also be guarded against. Rhododendrons dislike wind. The effects of cold icy blasts need not be enlarged upon, while even warmer winds have the great disadvantages of destroying the foliage and drying up the plants. The positions

successfully from the beginning of September till the present time, although in December and January the roots are particularly dormant and these periods might in consequence be omitted if convenient.

Over-flowering should be guarded against by flower-bud removal in February and it seems hardly necessary to say that the withered trusses should be immediately removed when over.

By attention to these details and recognising that Rhododendrons require some culture, although little compared to many other flowers, it will be found surprising how in the Home Counties many of the climatic disadvantages may be overcome successfully.

There is no lack of choice in selecting plants as their name is legion, but the following may be termed quite hardy and would form a good beginning to a more extensive selection: Alice, Ascot Brilliant, Bagshot Ruby, B. de Bruin, Bordartianum, Coombe Royal, Corona, Cynthia, Doctor Stocker, Duchess of Portland, Duchess of York, fastuosum flore pleno, G. A. Sims, George Hardy, Gomer Waterer, Ivoryianum, Jacksonii (pink), J. G. Millais, Lady Eleanor Cathcart, Manglesii, Mrs. George Paul, Mrs. J. G. Millais, Mrs. Lionel de Rothschild and Royal Purple. J. B. S.



THE EXCELLENT AND HARDY RHODODENDRON MANGLESII.

obtained. In too many gardens it is forgotten that almost all Rhododendrons, other than the high alpine moorland species, are found in close proximity to, or even under, large forest trees. In consequence too often Rhododendrons are placed in pits in lawns exposed to full sunlight. Again, very little attention is paid to the facts that a Rhododendron requires food and water, that its roots are minutely fine and hair-like, that they are surface rooting plants and that, in consequence, drought and sun are apt to play havoc if precautions are not taken. In the wild Rhododendron forests nature overcomes these difficulties by providing shady foliage and generations of decaying leaf mould. Endeavour must therefore be made to reproduce these conditions as far as may be possible and this may be done to a large extent by selecting a situation in close proximity to large trees, preferably Oaks, where no morning sun will penetrate and where the sun will not fall for more than two or three hours a day. In this way scorching will be prevented, the plants will be less likely to over-flower, spring frosts will be less felt, and a very different result obtained.

chosen therefore should be shady and sheltered as much as possible.

As regards soil, it must be lime free, but otherwise good light loam is most suitable; peat and sand are very good provided liberal quantities of leaf mould are used. In all cases, however, the drainage must be sharp. Rhododendrons will not stand any stagnation at their roots. Deep trenching is necessary and any unkind thing, such as pan, must be broken up and removed. As a rule better results can be obtained from beds, but if pits are adopted, care must be taken to see that they are of ample size and all tree roots must be removed either from the beds or pits. Rhododendrons transplant easily and well owing to their close root formation, but careful ramming is required in planting, especially in light soils. Particular care should be taken to see that the plants do not grow into one another, for their beauty of form is quickly lost, and owing to the ease of transplanting, there is no excuse for this being allowed to happen. Further, when in flower, fresh colour arrangements should always be considered and noted for carrying out at a later date. Transplanting generally may be done

A GOOD PLANT FOR MASSING

SOME time ago a writer in THE GARDEN drew attention to the possibilities of *Salvia virgata nemorosa* as an attractive garden plant, and, finding that Mr. Robinson in his "English Flower Garden" spoke of it as a good plant for massing, I ordered one dozen from Messrs. Barr and Sons. This plant proved so striking that I ordered a further dozen and also divided up the first lot of plants so that now, in the third year, we have 50yds. or so of it in the garden. Robinson speaks of it as "low-growing," but in my experience it averages from 2ft to 2½ft. in height.

That it is a drought-resister is evident from the way that it flourished here last summer. We had rain during the latter part of March and no more, not even a thunder shower until August. Our soil is hot and poor, with gravel below, and apart from a little manure at planting time the plants had no more attention save an occasional good watering. They commence blooming in this part of the country (Cams.) in June and continue until late September. By cutting back the spikes after flowering fresh laterals develop and so prolong the blooming season.

For good effect it must be planted in mass. It is beautiful throughout the whole period of its bloom, but is seen at its best with the glow of the western sun shining through it and lighting up its crimson purple bracts and blue flowers. It is then a truly gorgeous sight.

Another extremely beautiful and easily grown plant is *Nepeta Mussini*, but it must be in mass. I have seen odd plants of it in herbaceous borders and it looks almost insignificant. In this garden it also is a drought resister. The soft mauve flowers and grey foliage are very beautiful. That it is easily grown and inexpensive may be gathered from the fact that starting with six plants six years ago, we have now over 100yds. of it, and we have also given quantities away to our friends. It is undoubtedly a lime lover. It is at its best in May and June and makes a charming edging to beds of Pyrethrums, Lupins, Irises and Lavender. If cut back after its first orgy of blossom it does it all over again about September. E. G.

THE TALLER CAMPANULAS

Few flowers have a more definite place in the border than the Bell-flowers. Those mentioned below are suitable for the middle "reaches."

IN considering the best of the Bell-flowers it is convenient to take separately the tall kinds that are good in flower borders and the shorter growing ones for rock gardening and edgings. Of the taller, the first that comes to mind is the stately *C. macrantha*, a garden form of the native *C. latifolia*, the type has purple flowers, but the white variety is rather the better garden plant. A fine form is known as *C. eriocarpa*. Its height is from 4ft. to 5ft.; the shapely spire of bloom, with its sharply cut and pointed segments, and the regular foliage, make it one of the best plants of early summer. Not only is it first rate in the flower border, but as, in common with the greater number of the family, it has no objection to shade, it is one of the finest plants for such a place as where garden joins woodland, or in shrubbery edges. It will stand for several years, growing stronger year by year. It produces an abundance of seed, sows itself freely and is best grown from seedling plants. Another Campanula of bold growth and with equally large flowers is *C. macrocarpa*, with great bells of a reddish purple colour, also fine both in border and wild.

C. persicifolia has long been a garden favourite, and is one of the best of the June flowers, with its graceful habit and many blooms of white or purple. There are double forms, but it is doubtful whether the doubling, when, as is usually the case, it takes the form of a flattened rosette, is to the advantage of beauty; the best form of duplication is where the bell is neither flattened nor crowded, but has a distinct cup and saucer arrangement. In this, which is known as *coronata*, the flower loses nothing of its grace and distinctly gains in point of interest. It is not as common a plant as one would wish. To keep *C. persicifolia* in good order it is best to divide and replant yearly, as soon as the bloom is over. There is no need to cut the old flower stems; a sharp vertical pull

brings them away, and with them anything that is of no further use to the plant. There will remain several prosperous rooted offsets that should be put out separately and will make good flowering plants for the next year.

A good border plant is *C. lactiflora* syn. *celtidifolia*. A quarter of a century ago it had almost been forgotten, but later years have restored it to favour. It is five or more feet high, with a spreading pyramid of bloom at the top, in colour a washed-out purple inclining to white. Its best use is where a pale, cloudy effect of bloom is wanted as a setting to something of strong colour, such as *Clematis Jackmanni*. There is a pure white variety and another of rather smaller habit in which the flowers are a deeper purple. There can be no doubt about its merit as a garden plant, but it requires very careful and clever staking or to be so placed that it is among other plants that will support it just under the head of bloom, for the whole head is apt to be broken down by weight of rain or of blustering wind. No doubt the increase of size and weight of the flower head in cultivation has put too much strain on the upper part of the



THE TOO SELDOM SEEN CAMPANULA ALLIARIAEFOLIA, ADMIRABLE FOR THE EDGE OF WOODLAND.



INVALUABLE WHERE CLOUDY MASSES OF PALEST MAUVE ARE WANTED, CAMPANULA LACTIFLORA

stem which has not strengthened itself in proportion. The plant lasts for several years; seedlings self-sown often appear, perhaps too far forward in the border. When this happens, the flowering growth can be cut back when fairly forward, an experiment which has proved successful with many other plants and the season of blooming is not retarded.

Another persistent plant among the Bell-flowers is *C. alliariaefolia*, with a central spike about 2ft. high and a quantity of blooming laterals; the numerous white bells have a drooping habit. It is perhaps a better plant for the wood edge than for the border. When established it is no further trouble, for the old plants endure for some years and are sure to self sow with a sufficient though moderate number of successors. *C. pyramidalis*, so grandly grown as a biennial in pots by all good gardeners, is apt to be overlooked as an outdoor plant. Its best place is a joint in a cool wall where it becomes a perennial and will probably seed itself. It is best to sow the seed in a limy compost in a joint low down and await the result.

Canterbury Bells have long been with us as indispensable biennials, and nothing can be finer in the late summer, especially in soils that are rich with either loam or chalk; for though good Bell-flowers may be grown in almost any garden, it is in these rich soils that the whole family chiefly delights. But, remembering that *C. Medium* is a native of rocky places in Southern Europe, it also might well be tried in walls. G. JERVELL.

SPETCHLEY STRAIN OF PRIMROSES

The fine exhibit of this strain at the recent fortnightly meeting of the R.H.S. attracted much attention.

THE popularity of the many exotic Primulas—japonica, pulverulenta, rosea Bulleyana, helodoxa and what not—must not blind us to the possibilities of our own Primrose in the hands of capable hybridists. This was brought home to many who saw the Spetchley strain as shown by Mrs. Berkeley at the Vincent Square Hall on April 25. Mrs. Berkeley had selected and brought up quite a representative regiment of plants all at their most effective stage and displaying perfect domes of colour, as shown in the accompanying illustration from a photograph taken last season at Spetchley. The strain, indeed, possesses in unusual degree the qualities of early blooming and late continuing combined with a floriferousness reaching at certain moments and in certain individuals real excess, the plant forming a congested area whose large and sturdy denizens jostle and squeeze each other in their battle for "a place in the sun."

It is a score of years since Mrs. Berkeley turned her attention to the garden Primrose and Polyanthus. Already Miss Jekyll had done much at Munstead, and nothing can excel her selection of whites and yellows. Mrs. Berkeley, while by no means neglecting those colours, sought to develop in endless variety all the really acceptable and satisfying tones of which the race is capable. Orange and brick red, crimson and maroon, pink and mauve, purple and blue, as selfs and as mixtures, have had her attention, so that all men, be they after a full polychromatic effect or sternly insistent on some special hue, will find what they want and of the best if they saunter in spring amid the borders, reserve beds and woodlands of Spetchley. But selection and hybridisation was not concentrated on colour alone. Very many and quite as important other qualities are needed in a prize race, whether it be of man or beast, bird or bloom. There are substance and form, vigour and deportment to be considered and reached before the result can be declared satisfactory. In no detail has Mrs. Berkeley neglected the eugenics of the Primrose. The plants are massive but not coarse. The flowers are large, yet refined and shapely. The stems are long but stout, carrying aloft and erect their brilliant burden of flowers, some of which very nearly reach a diameter of 3 ins., while 2½ ins. is usual enough.

As a wild flower the Primrose is the nation's pride and joy. In competent hands it can, without loss of delicacy and charm, take on new qualities and an almost boundless colour range in the garden. And how easy to grow, how joyous as a harbinger of spring and yet a companion almost till summer-time! It has such a homely, native look, sympathetic to our inherited instincts and racial qualities. A sturdy, balanced, self-confident yet modest, home-loving yet



SHOWS THE FINE HABIT AND IMMENSE VARIETY OF COLOURING OF THE SPETCHLEY PRIMROSES.

colonising creature, readily adapting itself to new conditions and climes, generously responding to wholesome educative processes that give it fresh development and increased scope. We should all rejoice in the workaday Primrose of copse and hedgerow, but we should also watch and minister to its garden ambitions of rising in life, of fulfilling the higher and more varied floral functions, of occupying the seats of the mighty in the halls of horticulture. It "responds readily to treatment," as a doctor says of a well-constituted patient, and we can all get a lot of fun by starting with seed of a good strain and then using our own knowledge and effort in further selection and propagation. We can each of us do much, although not everyone has the assiduous patience, the deft hand, the tasteful judgment that have

enabled Mrs. Berkeley to make Spetchley the home of the blue-blooded aristocracy of the Primrose empire.

TRADITION

Its Value and its Shortcomings.

WE are all people of tradition, and the gardener particularly so, which is no more than to say that we profit from the experience of those gone before us. This is true wisdom, for, though bought wit may be best, it is expensive, and the process of acquiring it is slow compared to that of getting it ready-made from some one else. Tradition, however, followed blindly and without understanding, leads to Rule of Thumb methods, which never give the best results because they break down before any unusual circumstances. In fact, Rule of Thumb is an imperfect substitute for the instinct of an insect, being not so reliable in the first instance, and not so faithfully followed in the second.

Let us see how far tradition is to be followed, and when it is wise to depart from it. Let us suppose, in the first place, that you inherit a good tradition, one of the best; that, as a gardener, you have worked under one of those wonderful masters of the craft who succeeds, by a combination of reasoning and instinct amounting to genius, in bringing every conceivable type of plant to the utmost pitch of perfection.

Having left this master and being in charge on your own account, it would seem an impertinence on your part to make any alteration in your practice until at least you had acquired the standard and experience of your previous instructor. Even if you read of other methods or see them followed, you naturally say that what was good enough for a gardener with drawers full of medals, is good enough for a beginner like yourself. The fallacy of this argument is that your late chief himself would have to change many details of culture to suit altered conditions of soil or climate, or requirements of a different employer. You have also to remember that a genius often has some eccentric ideas which unaccountably prove worthless in the hands of the ordinary mortal; that, no man being perfect, your tradition may include some cultural errors; that progress makes past discoveries obsolete, and that we may learn useful innovations from the experiment or observation of the present.

It follows that tradition, however good, will hamper us considerably and even lead us astray, unless we understand the principles on which it is based, so that we may modify it to suit altered conditions and be able to recognise in what cases it is open to improvement.

There is another source of tradition besides the individual one, and that is the mass of local tradition. This governs dates of sowing and planting, distances between plants and rows of vegetable crops, treatment of the soil and so on. Its value lies in being the result of generations of experience of the peculiarities of that particular environment and soil. Its disadvantage is that it is inelastic and so tenaciously conservative that it lags far behind new improvements and discoveries. This local tradition requires careful sifting, to cast away the dross and keep only what rests on a solid foundation of fact. Even the past masters of our craft are bound by prejudices and have taken-for-granted maxims or procedure, without having themselves tested their correctness. Much misleading information is handed down from one generation to another and accepted as being "what our fathers have told us." G.P.D.

THE SPRING ROSE SHOW

MANY of those who attended the Spring Rose Show at the London Scottish Drill Hall on April 21 must have gone away feeling how very easy it is to have plenty of beautiful Roses in the springtime, for in the hall there were Roses of all types in great abundance and of high quality. Nor were all these lovely blossoms from the great trade establishments, where they are able to select their show blooms from a fair quantity. It is pleasant and encouraging to be able to record that the very best collections of Roses were grown by amateurs. There was not a deal to choose between the exhibits of the President of the Society, Mr. E. J. Holland, and Mr. G. Hammond, who in Section VI received the first and second prizes in the order named, for both had superb blooms, though the first prize dozen were of the more even quality. Mr. Holland showed such as William Shean, Louise Crette and Mrs. Foley Hobbs, while Mr. Hammond had these sorts and such a good bloom of G. Amédée Hammond as to win the silver medal offered for the best amateur's bloom in the Show. The nurseryman's silver medal bloom was a wonderful *Maréchal Niel* by Mr. A. T. Goodwin. This was by nature of a coincidence, as G. Amédée Hammond might well be termed a pale and rather more pointed *Maréchal Niel*. Mr. Goodwin has long been famed for his *Maréchal Niel* Roses, and on the present occasion he surpassed himself.

Mr. H. L. Wettren was another amateur who showed excellent exhibition Roses. His half-dozen of such sorts as *Mme. Méline Soupert*, *William Shean* and *Mrs. E. Mawley* were splendid.

The best cut blooms in the nurserymen's classes were by Mr. E. J. Hicks, whose twenty-four included handsome flowers of *Mrs. Foley Hobbs*, *Gladys Holland*, *Mrs. E. Hicks* and *George Dickson*.

The baskets of Roses did not make such a great display as on some former occasions, but nothing could be finer than Mr. Hammond's *G. Amédée Hammond* or Mr. Goodwin's *Maréchal Niel*. As a display the group of miscellaneous Roses on a staging was very satisfying and surpassed the pot Roses. The first prize group was by Messrs. B. R. Cant and Sons, who displayed generous quantities of the new *Sovereign*, *Ophelia*, *Phœbe*, *Covent Garden* and the chaste single white *Una*. In Mr. G. Prince's second prize collection there were, in *Mrs. C. Lamplough* and *Muriel Wilson*, two beautiful Roses.

The groups of pot Roses included some good sorts, but that which held the eye most was *Paul's Scarlet Climber*, particularly in one of Mr. Hicks' first prize groups. *Ellen Poulsen* was also very bright both here and in a graceful group of *Polyanthas* by Messrs. *William Cutbush* and *Sons*.

The class for new Roses of the previous year is always interesting. The best at the Drill Hall were *Earl Haig*, *Premier*, *Clory* of *Steinfurth*

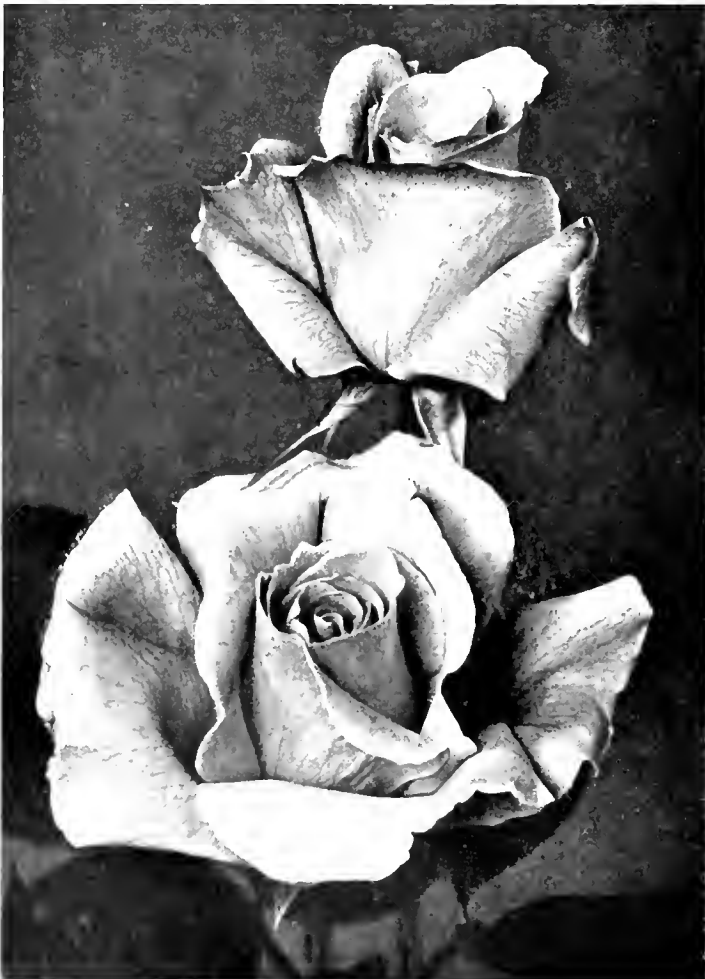
and *Crusader*. The last named seems a really good dark, velvety crimson Rose, and was to be seen on several stands.

Decorated dinner tables were a great feature of the Show, and had the judging to be done over again later in the day we suspect that the glorious tables of *Hoosier Beauty* and *Richmond*, which by then had opened, displaying a wealth of colour, would have been prize winners. But the table of *Sunburst*, so tastefully arranged by *Mrs. Oakley Fisher*, fully deserved the first prize it received in the amateurs' class; while *Mrs. A. R. Pide* had a very beautiful table of *Columbia* with sprays of *Asparagus plumosus* and *Japanese Maples* in the open class.

NEW ROSES.

Dorcas.—This free-flowering, graceful *Wichuraiana* seedling had many admirers, but did not find favour with the judges. It did not appear to the best advantage when arranged as cut sprays—the more graceful *Polyanthas* never do—but the pot plant was quite attractive. It is said to be a cross between *Minnehaha* and *Orleans*. It bears large sprays of semi-double flowers of soft pink colour with distinct light centres. Shown by Messrs. *English* and *Son*.

Elsie Beckwith.—A glowing H.T. Rose that might well be described as a vivid, deep rose-pink *Richmond*. In common with that useful variety



ELSIE BECKWITH MIGHT BE CALLED A CARMINE-ROSE RICHMOND.



THE GOLDEN-BUFF PERNETIANA VARIETY SOVEREIGN.

it carries shapely blooms on long clean stems and has good foliage. It is recommended for decorative and cut flower purposes. Certificate of merit to Messrs. G. Beckwith and Son.

Mrs. Hornby Lewis.—The dwarfiest of these new Roses, but of vigorous and spreading habit,



THE MASSIVE AND FRAGRANT BLOSSOM OF MRS. HORNBY LEWIS.

carrying its blooms well, above luxuriant, dark green foliage. The petals seem to be stained with an uncommon chrome yellow colour, while the heart of the blooms has the beautiful shading of the fragrant Souvenir de la Malmaison, and it also has a delicate perfume. Certificate of merit to Mr. Elisha J. Hicks.

Mrs. T. English.—A vigorous, free-growing H.T. Rose of apricot fawn colour delicately shaded with salmon pink. The foliage is good and the variety forces well, but it was scarcely up to medal standard. Shown by Messrs. T. English and Son.

Sovereign.—This free-flowering Pernetiana seems to have more colour when forced than it had last summer. The deep golden colour was very heavily flushed with dull cardinal, particularly on the buds. The blooms are pleasantly fragrant, and the stout foliage is of a lustrous green. Certificate of merit to Messrs. B. R. Cant and Sons.

THE MIDLAND DAFFODIL SHOW

THE Daffodil world expects to see a fine display of the choicest varieties at this great Show at the Botanic Gardens, Birmingham, and now that things are settling down somewhat there was great promise of a splendid display. Unfortunately, owing to the lateness of the season, there were no flowers from the North and only a very few from the Midlands, but what was lacking in quantity was more than made up by quality. At this Show there is generally keen competition in

the classes for new varieties and also for the valuable challenge cups.

The Bourne Memorial Cup Class for twelve varieties raised by the exhibitor, brought four entrants, the first prize being awarded to Dr. N. Y. Lower of Presteign, who put up twelve exquisite varieties of the highest quality, including Mrs. Lower, a most refined white trumpet; Mr. F. Herbert Chapman of Rye being second with a choice collection.

The Cartwright Challenge Cup Class for twelve varieties which need not have been raised by the exhibitor, was won by Mr. F. Herbert Chapman with a splendid selection, closely followed by the Donard Nursery Company of Newcastle, Co. Down.

The Walter Ware Challenge Vase for three varieties hunched for market was won by the Donard Nursery Company with Mr. W. A. Watts of St. Asaph, second.

The beautiful White Daffodil Trophy for six varieties of white trumpets brought seven entries; first prize was won by the Donard Nursery Company; second, Mr. F. Herbert Chapman.

The competitive group of thirty-six varieties was won by J. L. Richardson of Waterford with a charming, well balanced lot.

The classes for single blooms were moderately well filled. The first prize for a single bloom of yellow trumpets was awarded to a most perfect bloom of Cleopatra, exhibited by Captain Hawker. White Knight held its own in the white trumpet class, the first prize blossom being shown by J. L. Richardson; a fine flower of Lady Primrose, shown by Donard Nursery Company, obtained first prize in the bi-color trumpets. Mr. Watt's new variety, Brightling, secured first place in the yellow perianth "Incomps." The finest single bloom Barri, with white perianth, was Mr. Mallender's new variety Jessie, named after his daughter which beat five varieties, such as Firetail. The Donard Nursery Company's Tenedos won the Leedsii (4A) Class, while Ivorine, shown by J. L. Richardson won in Class 4B, Leedsii. The favourite Jouquil Buttercup was first in its class. It was shown by J. L. Richardson, who also won first in the Tazetta hybrids with Glorious. The best poeticus was Captain Hawker's Snow King.

Quite a goodly number of varieties were submitted to the Floral Committee for award and awards of merit were bestowed upon the following:—

Orange Glow.—A handsome Incomparabilis variety of large size, perianth canary yellow, the large open corona bright orange with a pretty crimped margin. Shown by Messrs. R. H. Bath, Limited.

Brightling.—Another very beautiful Incomparabilis of good form,

The perianth segments are pale yellow and the short yellow corona is margined with deep orange. Should ultimately prove a valuable market flower. Shown by the Anglesey Bulb Growers' Association.

Sunrise.—A charming and substantial variety belonging to the Barrii section. The creamy perianth has yellow rays and flakes. The cup is a rich orange. Also from the Anglesey Growers.

Cleopatra.—An excellent self yellow trumpet with broad and overlapping perianth segments, Shown by Captain Hawker, Ivybridge.

Magnolia.—A giant Leedsii with stout blossoms for the section; the perianth segments are creamy white and slightly twisted and the rather more deeply tinted cup is well expanded and has a well frilled edge. Shown by Messrs. George Monro, Limited.

Coronation.—A well finished Poeticus variety with a well rounded flower of medium size. The pure white perianth has smooth well overlapping segments. The bright yellow cup is narrowly margined with crimson scarlet. Shown by Messrs. Barr and Sons.

Glorious.—A white perianth Tazetta hybrid with a deep red solid eye; an acquisition. Shown by Mr. J. L. Richardson, Waterford.

Mrs. Percy Neale.—A particularly fine giant Leedsii. The beautiful white perianth is of show flatness, and the cup pale citron. Wonderfully stout for the section both in flower and stem. Shown by Mr. W. F. M. Copeland.

Everest.—An addition to the white trumpet section. From the Donard Nursery Co.



LIKELY TO PROVE AN EXCELLENT GARDEN VARIETY, NARCISSUS BRIGHTLING.

The Birmingham Botanical Silver Medals were won by Mr. J. L. Richardson and Mr. H. R. Darlington of Potters Bar, and bronze ditto by the Donard Nursery Company and Mr. W. F. M. Copeland.

The honorary exhibits are always good at Birmingham, and this season was no exception. Messrs. Barr and Sons of London and the Donard Nursery Company of Ireland well merited the Society's gold medals which were awarded them. Silver-gilt medals were given to Messrs. R. H.

Bath, Limited, of Wisbech, and the Anglesey Bull Growers Association, as well as silver ones to Messrs. Cartwright and Goodwin, Limited, of Kidderminster, J. L. Richardson of Watertford, and W. F. M. Copeland of Southampton.

The Show was well attended as is evidenced by the takings at the gate, which were more than for several years past. Everyone regretted the absence of the Rev. J. Jacob, who is recuperating after an illness and who is now rapidly recovering.

R. Thomsoni. Lady Aberconway, Sir John Ramsden and Mr. G. W. Loder contributed small collections.

The hardier hybrids, which may be termed everyone's Rhododendrons, were splendidly shown by Messrs. Wallace and Co., in a large group of spring-flowering shrubs. The yellow *R. campylocarpum*, *R. Princess Juliana*, a pale blush pink with pretty crimped edges, and *R. Hugo de Vries*, were very fascinating. The last named has Pink Pearl for one parent, which it greatly "favours." Among other shrubs in the hall, *Coroeca virgata* in flower in Messrs. Piper's collection, and the corner group of Mr. R. C. Notcutt, where he had beautiful double-flowered Cherries and standard Brooms, were charming.

Of the many alpine, the outstanding exhibit was by Viscountess Northcliffe, who filled a long table with good plants in pots and pans. These were such Saxifrages, Sedums, Gentians and Armerias as are suitable for flowering in an unheated greenhouse.

Narcissi of all kinds were freely shown. The greatest collection was by Messrs. Barr and Sons, who won a gold medal. They had such gorgeous bright-cupped sorts as Ruby, King's Pirate and Best Man. The pale apricot shading of the corona in Lavender, a Barrii, fascinated many visitors while the pink trumpeted Mrs. Backhouse naturally drew attention.

That decorative variety Flame occupied a prominent place in a collection by Messrs. R. H. Bath, Limited. Almost next door they placed lovely flowers of orange Sir Watkin and Lady Superior, a Barrii bloom with a fiery orange corona. Messrs. Sutton and Sons showed how very decorative the ordinary sorts can be made when they are massed in fair quantity and arranged with taste. The low bowls of such sorts as Rosalie, Tom Thumb, and St. Vincent were delightful.

The Anglesey Bulb Growers' Association had a nice little decorative exhibit, while Messrs. F. H. Chapman, Limited, and Mr. W. F. M. Copeland showed good seedlings.

Carnations and Roses of merit were to be seen in fair quantity. Mr. E. J. Hicks and Messrs. B. R. Cant and Son, showed similar varieties to those they won prizes with a few days previously, and Messrs. Wm. Cutbush and Son had a charming group of Polyantha Roses. The chief Carnations were by Messrs. Allwood Bros., Mr. C. Engelmann and Messrs. Stuart Low and Co.

The Southern Section of the National Primula and Auricula Society had their usual annual small show and many visitors were interested in the quaintly beautiful show Auriculas and more so in the useful alpine. The chief exhibitors were, Mr. Jas. Douglas and Mr. J. Bennet-Poë, while Mr. Miller showed many single and double-flowered Primroses.

The fine strain of Spetchley Primroses, of which a group was exhibited in a corner of the hall, is the subject of an article on page 211. Especially when viewed from a little distance they made a fine display.

NEW AND RARE PLANTS.

Aubrietia Maurice Prichard.—A moderately attractive variety which bears plenty of unusually large pale mauve flowers. Award of merit to Mr. Maurice Prichard.

Azalea Fraternelle.—This and the three following were shown as Kersbergen Azaleas, but, with one exception, they are just large-flowered, very free Mollis Azaleas, though very showy varieties. The colour of *A. Fraternelle* is pale rose suffused with salmon and there is orange-yellow splashing on the upper petals. Award of merit to Messrs. R. Wallace and Co.

Rhododendrons and Auriculas at the Royal Horticultural Society's Hall

THE advertised feature of the R.H.S. meeting on April 25 was Rhododendrons, and this was presumably in the interests of the select band of growers of relatively tender early-flowering sorts. As a Rhododendron Show it did not come up to expectations, and it was evident that most of the exhibitors

further illustrate what a favoured climate West Cornwall enjoys there was, by the Rhododendrons, a gathering of large fruits of Madras Citron from the open air, in the garden of Mr. Howard Fox, Grove Hill, Falmouth.

Mr. E. G. P. Magor, who has long specialised in Rhododendrons in his beautiful valley at



THE HYBRID ROSE-PINK RHODODENDRON AURORA. (AWARD OF MERIT.)

have much to learn before they can make it the success the great beauty of the flowers deserves. There were many lovely blooms in the hall, but often there was no indication as to their nature or objects. Mr. T. H. Lowinsky, Tittenhurst, Sunninghill, brought a great number of large plants in pots. These were mostly beautiful hybrids of *R. Aucklandii* parentage, but all were unnamed. In an exhibit by Messrs. K. Gill and Son, who every season bring branches of excellent blooms from the Falmouth district, one could admire the trusses of flower with understanding and pleasure, for they were attractively arranged and named. Such varieties as *R. Shilson*, Ernest Gill and Gill's Triumph must have made everyone long to possess them. There were many others, including brilliant arboreum seedlings and a generous mass of *Azalea americana*, which may be grown in very many gardens. Almost as to

Lamellan, St. Tudy, Cornwall, brought the most valuable and interesting Rhododendrons from the hybridists point of view under the appreciation of the special committee which judged the collections. In *R. calophyllum* he had decidedly the most beautiful Rhododendron in the Show. It is a compact truss of erect bell-shaped, crystal white blooms, which have a vivid rosy carmine blotch in the centre. The pink form of the same species was also lovely, while the blood red arboreums were most brilliant. A little collection of the small blue-flowered sorts included the beautiful hybrid *R. prostrigatum*.

From the wonderful garden he is making at Exbury, Hampshire, Mr. Leopold de Rothschild exhibited a small collection, and this included such gorgeous sorts as *R. nepalense*, *R. Iverianum*, *R. R. Horsham* and Queen Wilhelmina, with a most charming rose pink cross from *R. kewense* and

Azalea Frederick Engels.—This was the brightest coloured of the many plants on view and seemed to be a typical, good Azalea Mollis of vivid salmon-rose colour. Award of merit to Messrs Wallace.

Azalea Chicago.—The colour of this large-flowered variety may be described as being a coppery-orange. There are spots of a darker shade on the upper petals. Award of merit to Messrs. Wallace.

Azalea Thomas Moore.—A large salmon-pink variety shaded with orange-fawn. The colouring changes to clear yellow in the centre. Award of merit to Messrs. Wallace.

Narcissus Brightling.—This very beautiful *Incomparabilis* Daffodil repeated the success it achieved at Birmingham. Award of merit to the Anglesey Bulb Growers' Association.

Narcissus Chinita.—A charming Poetaz variety bearing twin flowers. The perianth is pale yellow and the small corona is a deeper yellow, margined with orange-scarlet. Award of merit to Mr. Leopold de Rothschild.

Narcissus Magnolia.—The chief charm of this large trumpet Daffodil is its Magnolia-like whiteness. The form is perhaps hardly first-class, the perianth segments being slightly twisted. The tube is widely expanded. Award of merit to Messrs. George Monro.

Narcissus Orange Glow.—The glorious *Incomparabilis* variety of large size which received an award the previous week at Birmingham again found favour. Award of merit to Messrs. R. H. Bath, Limited.

Narcissus Mountaineer.—A large bright yellow trumpet Daffodil of good form and with plenty of substance. Award of merit to Mr. W. B. Cranfield.

Narcissus Rob Berkeley.—A very shapely large trumpet variety of slightly drooping habit. The long, regular trumpet is pale creamy white and the perianth is a trifle paler, becoming nearly milk white. Award of merit to Mrs. Berkeley of Spetchley.

Narcissus Xenophon.—A large flowered Tazetta variety. The twin flowers are in form much like loosely made *Barrii* blooms. The colour is orange with a deeper shade to the

corona. Award of merit to the Anglesey Bulb Growers' Association.

Primrose Clarkson.—A very uncommon rosy-lake single Primrose, which has an orange eye. National Auricula Society's first class certificate to Mr. G. W. Miller.

Primrose George.—A pretty clear lilac single Primrose which has an orange eye. N.A.S. first class certificate to Mr. G. W. Miller.

Primrose Lingwood Beauty.—A free-flowering rosy-purple variety of good form. N.A.S. first class certificate to Mr. G. W. Miller.

Rhododendron Aurora.—Quite the brightest of all the Rhododendrons in the hall. It has a large truss of widely expanded vivid rose-pink flowers. The green leaves are relatively small, so that a bush in bloom would be a rich mass of flower. Award of merit to Mr. Leopold de Rothschild.

Rhododendron Mrs. T. Weylenberg.—A bright rose-pink shaded hybrid which bears plenty of medium sized trusses of bloom. Shown by Messrs. Wm. Cutbush and Sons.

Rhododendron Souvenir de D. A. Koster.—A brilliant free-flowering hybrid somewhat of Doncaster appearance, but the flowers are of a bright, deep rose-pink colour. Award of merit to Messrs. W. Cutbush and Sons.

Streptocarpus Sutton's Giant Blue.—A gigantic but refined flower, nearly as large as a Gloxinia. The pale blue flowers have a pretty white throat. In spite of the great size of the blooms it is a very free-flowering variety. Award of merit to Messrs. Sutton and Sons.

Angraecum Leonis.—A particularly well grown specimen of this Madagascar Orchid was shown bearing three spikes of white flowers, the flower buds are of a curious green tinge. Award of merit to Sir Herbert Leon.



THE REMARKABLE PINK TRUMPETED DAFFODIL
MRS. R. O. BACKHOUSE.

Catasetum Trulla Dovercourt Variety.—This might almost be termed a Black Orchid, for the stems and flowers are of a deep blackish-maroon colour. When lifted the greenish-yellow lip is seen and relieves the sombreness. Award of merit to Dr. T. Bedford.

Brasso-Laelio-Cattleya Truffantiana Low's variety.—A fine large-flowered hybrid, sepals and petals yellow, tinged bright green; the lip is a vivid carmine-rose. Award of merit to Messrs. Stuart Low and Company.

A USEFUL RHODODENDRON

AMONG the newer Chinese Rhododendrons *R. impeditum* is proving one of the most useful species for the rock and alpine garden. A dwarf evergreen shrub of spreading habit, it produces a profusion of purple flowers about 1 inch across, commencing when the plants are only a few inches high and within two years from the sowing of the seeds. When first introduced by Mr. George Forrest in 1911 this plant was grown for several years as *R. fastigiatum*, and may still retain this name in some gardens. In many respects *R. impeditum* is a better garden plant than the earlier introduced *R. intricatum*, as it not only seems to grow better, but flowers about a month later when there is less liability of damage by late spring frosts. Botanically, among other differences, *R. impeditum* is readily distinguished from *R. intricatum* by the long protruding anthers. Very readily increased by seeds and cuttings, there seems every possibility of this dainty alpine Rhododendron being as readily grown in our gardens as the Heathis and Emz. When increased by cuttings is proposed the plants should be grown under glass, the young growths on these rooting much more readily than shoots taken from plants in the open. The flowers vary from mauve to violet-purple.

A. O.



THE CHASTE TRUSS OF RHODODENDRON CALOPHYTUM.

ARTIFICIAL FERTILISERS

Their Use in Spring and Summer.

THERE are still many gardeners who are almost afraid to use artificial fertilisers, and who, in consequence are finding themselves in difficulties owing to the high cost and genuine scarcity of dung, on account of the rapid supercession of horses by machinery. It is for such gardeners that the present article is written, not for the man who has used artificial fertilisers for the last twenty years, for he, of course, will "know all about it."

From this time forward until about the middle of September artificial fertilisers should be in full use. It is often the early and the late applications that count most. Crops can be rushed through a danger period or pushed on to be ready for a certain date. One cannot do this with liquid animal manure whatever anyone may say to the contrary, and one certainly cannot get the beauty of colour in either flowers or vegetables without "artificial" that one can with them.

Like almost everything else, artificial fertilisers have been classified and, if I may say so, over-classified. Nearly every garden writer has some pet classification of his own. He either classifies them as regards the crops that they benefit most, or as regards their solubility in water, or, again, as to the metals of which they are compounds. The present writer would like to abolish all this over-classification, which makes the subject confusing and so often leads to disaster in the case of the inexperienced. Let them be divided into four great groups and stick to that.

The most important group is that of which the principal ingredient is nitrogen. Nitrogenous artificial fertilisers comprise nitrate of soda, sulphate of ammonia, nitrate of ammonia, nitrate of lime and a few others. All are very soluble in water and remarkably quick in action. They produce leafage and nothing else, therefore they should not be used for flowers or vegetables where undue quantities of foliage are undesirable. If, however, crops are wanted to make leaf growth, they should be given nitrogen in one of the forms named above, using it at a rate not greater than 1oz. to the gallon of water or half an ounce to the square yard.

The second group is that of potash manures. Potassium itself is a metal which few gardeners have seen and none need want to see. Its salts, however, are exceedingly useful; in fact, such crops as Potatoes and, indeed, many roots can hardly be grown to perfection without them. Being a metal, potassium combines readily with acids, and one of its compounds, saltpetre, is often used as a nitrogenous manure. In reality, however, it can be used for supplying both potash and nitrogen to the soil, and it will be noticed that it does not make plants "run to leaf" to the same extent as a purely nitrogenous fertiliser. Phosphate of potash is another of its combined salts, but this will be treated in the next section.

Beyond these there are two salts of potash for our use, namely, sulphate of potash and wood ashes, which contain a percentage of carbonate of potash. I need hardly give particulars of the value or use of wood ashes since even the veriest amateur understands it. Sulphate of potash is a valuable fertiliser for application throughout spring and summer. It may either be used dry at the rate of 1oz. to the square yard or in solution at the rate of 1oz. per gallon of water.

The third group of artificial fertilisers consists of those supplying phosphates to the land. I have already mentioned phosphate of potash in this connexion, but it is not recommendable

for general use owing to the difficulty of storing it. It has a disagreeable habit of deliquescing, and must therefore be kept in a damp-proof tin if it is to be stored at all. About a quarter of a pound of phosphate of potash is ample for a 10-gallon cask of water.

Among other phosphatic fertilisers superphosphate of lime is probably the best known, and an effort should be made to obtain a sample with the highest possible percentage of solubility. There is always a considerable amount of superphosphate which will not dissolve, and it is therefore a good plan to make up a stock solution and allow the sediment to settle. If a pound of superphosphate of lime is dissolved in a tub of water holding about 8 gallons and then one part of this stock solution used with every two parts of water, a liquid fertiliser quite strong enough for ordinary purposes will be the result. It does not pay to give superphosphate too strong on account of its being a very acid manure. While potash fertilisers increase quality, phosphates induce earliness.

The last group consists of general artificial fertilisers. One of these, which deserves carefully experimenting with, is sulphate of iron, as it intensifies the colour of both flowers and foliage. In large doses it is very poisonous, but I have successfully used it up to about half an ounce to the gallon of water. E. T. ELLIS.

OLD CONNA HILL GARDEN

ENGLISH visitors who cross the Irish Channel from Holyhead to Kingstown, now called Duo-loughaire, are familiar with the two Sugar Loaf Mountains behind Bray Head. Old Conna Hill lies on the south-east slope of the County Dublin facing these peaks, and a more beautiful situation for a garden would be hard to find. Climate and soil are alike favourable; it is two miles from the sea, sheltered from cold winds, and has a rich loamy soil. Added to all this, two generations of good plantmen for owners have made this the most desirable of all gardens in County Dublin. The following plants were noted during a visit to Captain Riall on March 5: In the shrubbery *Castanopsis chrysophylla*, a fine tree 25ft. high, the beautiful golden underside of the leaves very attractive as the branches swayed in the wind. *Jasminum primulinum* has grown into a thick bush, covered with bright red buds which open into yellow flowers the size of a shilling, with a frill in the centre which makes the flower look like *Narcissus odorata* fl. pl. This tender shrub grows in the open without protection of any kind. A very brilliant pink *Rhododendron*, a dwarf hybrid, with apparently *R. Nobleanum* blood, in a group of four, makes a gay patch. *Rhododendron argenteum* Falconeri, Keysii, Thomsonii, fine healthy specimens, lead to the garden door, which, when opened, shows an avenue of *Cordylines* in front of Yew hedges, framing a beautiful view of sea, sky, Bray Head, the two Sugar Loaf Peaks and stately Douce Mountain.

Turning one's eyes to the garden there is a big stretch of wall covered with plants of *Mimulus glutinosus*, not yet open. Next to it *Cantua dependens* or *buxifolia* which, although the date be March 5, has put forth two of its brilliant rose and yellow flowers, long tubular in shape, opening into expanded mouths. *Dendromecon rigidum*, also, is in flower. This plant is against a 15ft. stone wall; its beautiful grey foliage stands well above the wall. Captain Riall says there is not a month of the year that it is without some of its lovely shining yellow butter-cup like flowers. *Habrothamnus* or *Cestrum fasciculatum* spreads its branches for yards

on the wall, its hard looking dull green leaves a great contrast to the dark shining foliage and brilliant tan bark of the trunks of two big trees of *Myrtus Luma*, covered with white flower buds now, which later in the year are followed by dark wine-coloured fruits. *Myrtus Ugni* fruits very freely here. It is made into jelly at Old Conna Hill, and very good jelly it is. *Callistemon coccineus*, the Australian bottle-brush, is not an uncommon plant out of doors in Ireland, but it seldom attains to 8ft. in height. I have seen this plant in summer when it is covered with its bright red flowers, which are very like the queer little bottle-brushes used in children's nurseries.

Daphne Dauphina is not often seen, though its relations *Mezereum*, purple and white, are in nearly every garden. Captain Riall's shrub of *D. Dauphina* is a gnarled old warrior, with a twisted stem; it spreads 6ft. wide and is covered with reddish-mauve flowers and dark glossy green leaves. It is endowed with the strong sweet *Daphne* scent, almost as good as *D. indica*. *Daphne Blagayana*, a beautiful dwarf alpine shrub, flourishes. It is a straggling grower, the leaves forming a rosette-like tuft at the tips of the branches encircling thick clusters of fragrant white flowers. It blooms freely and for many weeks. The sole secret of success with this plant is to keep the branches well layered with stones, and to plant it in a fairly shady place. It likes a well drained spot.

Rhododendron futescens is a pale yellow-flowered Chinaman, with the thin twigs, narrow leaves and upright growth so distinct from the bushy habit of the Himalayan hybrid type. *R. moupinense* is another delightful Chinese species. It is very dwarf in habit, its large delicate white flowers stand out in relief from its evergreen leathery oval leaves. In most gardens it is well to give it a little protection at night. The flowers open so early in February they are destroyed by even a slight frost. It gets no covering at Old Conna. In a group of this lovely species grown from seed which came from a Wilson collection, there is one remarkable plant with very deep rose-coloured buds, the open flowers white inside with bright rose-coloured backs to the petals. A few buds were carefully packed and sent to Mr. Williams of Caerbays who stated that he has had several similar seedling forms, some of which were of great beauty, and that some of them came true from seed, which is a point of much interest.

Fabiana imbricata (Peru) lives quite unprotected and is already covered with flower buds. *Diosma ericoides* (Rutaceæ), a native of South Africa, was in full flower in an open border, its tiny white flowers have a sweet perfume. *Acacias* do very well in this favoured climate and soil. Many years ago Captain Riall brought home a small pot plant of *Acacia dealbata* from the South of France. It flourished for years in a garden border until it was so badly smashed by a big wind it had to be cut down to the ground. It was 30ft. high with spreading branches. Every March it was smothered in clouds of feathery yellow flowers and many enthusiastic gardeners were bidden yearly to see this lovely tree. Sprays were cut off with no niggardly hand and guests were given sweet-smelling bunches to carry away. From the stump of this gallant tree a strong shoot sprang up, and now a fine young trunk is developing which is flowering well. *Acacia Riciana* (Tasmania) has very dark foliage. *Acacia armata* (Australia) has thick, hard foliage like a miniature Butcher's Broom. *Braeyglottis repanda* was growing well, away from a wall. This beautiful shrub should be tried in many more gardens, but it needs a wall and winter shelter in any but favoured climates. Its grey leaves, with thick woolly underside and beautiful feathery panicles of cream-coloured flowers hanging like those of *Spiraea discolor*, but more cloudy in

effect, are most delightful, and well repay a little attention during the hard weather. Abutilons, white and mauve, grow freely and have a long lease of life. *Embothrium coccineum*, the well named Flame Tree, does well. I have mentioned

only a few plants seen during a short visit. Old Conna Hill, thirteen miles from the city of Dublin, has many treasures in bulbs, herbaceous plants, shrubs and conifers, all well grown and well cared for.
W. PHYLIS MOORE.

SAXIFRAGES OF THE MARITIME ALPS

IN your issue of January 14 last I gave a little account of the Pyrenean Saxifrages. Now let me try to give here an idea of the beauty of those of the Maritime Alps. This chain of mountains is a wonderful centre for the *Euaizooma* group of Saxifrages. The *Kabschia* group is here represented only by some types common to other mountain chains, and the "Mossy" (*Dactyloides*) section which is so richly represented throughout the whole chain of the Pyrenees has here only a local type, *S. pedemontana*, which is also found elsewhere and particularly in Corsica. The types which belong exclusively to the Maritime Alps are *SS. florulenta*, *cochlearis*, *lingulata* and *lantoscana*, with their respective varieties. *S. florulenta* is the most striking of them, and has been rightly called "the pearl of the Alpes-Maritimes." It is well known to alpinists and botanists, as well as to gardeners. It is a veritable jewel of the high altitudes on granitic rocks at from 6,000ft. to 10,000ft. above sea-level, in an area not extending to many kilometres, from the Val Roya to the Tinée Valley. It appears as a real beauty in the crevices of the high granitic walls, and is not at all easy to find. It is useless to attempt to take it from these narrow clefts. The only means to get it is to search for the tiny young plants growing in the stone banks at the foot of the walls. They cannot long live there—they are destined soon to die, because the plant can grow only between rocks. The seeds falling from the cliffs come up regularly, but the plants die after a few years, so that it is not at all reprehensible

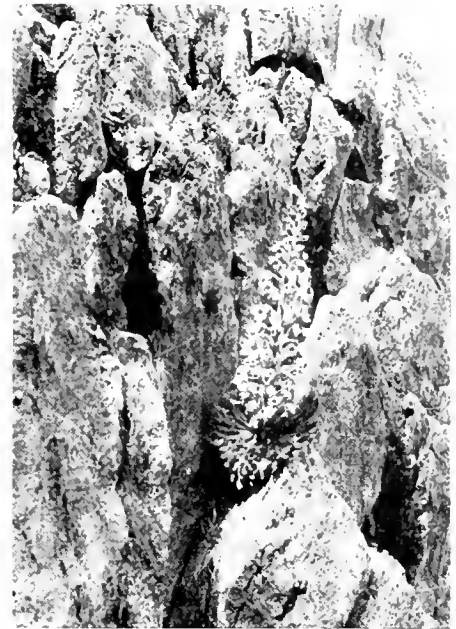
to take them out and to bring them away. We grow them at *Floraire* only in a perpendicular position, even in pots, for then we make holes in the sides wherein to introduce the roots.

As regards aspect, *S. florulenta* is very particular, as the dark green, shining and aromatic leaves are disposed in dense rosettes which sometimes become very old. I brought with me once an old plant found dead on the loose stone heap at the foot of a perpendicular cliff where the avalanches brought it after it had flowered, and we reckoned out that the age of it was more than eighty years. The plant makes only five or six leaves per year, and my rosette, which was 40 centimetres long, had more than 500 of them. The plant is a very slow-growing one, and as it is monocarpous (dying after once flowering), as is also *S. longifolia*, the rosette disappears after having flowered. The flower-spike is pyramidal like that of *S. longifolia*, but the flowers are of a very conspicuous rose-purple. The colour is something like that of *S. lilacina*, perhaps rather nearer to the colour of *Megasea crassifolia*, but not at all the hue of *S. oppositifolia*, which is pure carmine. The first time I found it (August, 1908) I was surprised by the beauty of the pyramidal spike of flowers shining upon the dark granitic rocks of the Valley Boréon. The botanist E. Boissier, who grew it at his marvellous garden of Valleyres, had it once in flower—I believe in 1874. A friend of mine at Davos flowered it also, but we have never succeeded in flowering it here. I know of cases in England where the plant has succeeded and flowered well, but they are rare. It must be noted that it is necessary to put it on a north wall and in granite rather than in limestone. We have it here in a wall facing north, and have hopes of flowering it shortly.

S. lingulata is also an element of the flora of these Alps. It only grows on the highest summits, particularly on the north side of the chain. I found it in special luxuriance at the base of the Col de Tende above Linnone and Pesio, where some spikes were not less than 28ins. long and the leaves reached 5ins. or so. It forms large clumps of elegant silver green rosettes, the leaves being broader towards the tip than at the base. The petals are large and of the finest white and contrast elegantly with the dark red glandular stalk. From the end of May until July they form a feature of the landscape. Would that I had the pen of poor Farrer to describe its splendour! No words can describe it; even the peasants of the country come to pay their tribute of admiration. Its culture is a very easy one. It only wants the cliff and a partially shaded aspect.

S. cochlearis is another very distinct species not found elsewhere than on the barren rocks of the south side of the Maritime Alps. While *S. lingulata* remains on the highest altitudes (from 3,000ft. to 7,000ft.), *S. cochlearis* comes rather

low in the same regions. I found it near the sea above Mentone, and Burnat and Boissier found it in Liguria and on the Genevese Apennines. It forms very dense tufts of short-leaved rosettes, the short leaves being thick and spoon-shaped at their tip, but narrow at the base, very glaucous and silvery powdered, particularly at the margins. The flowers are pure white on deep purple or reddish brown stalks. I once found near to Fontau a very small form resembling *S. valdensis*, the same as I saw in an English nursery offered for the Valdesian species. I described it in the



THE RARE SAXIFRAGA FLORULENTA IN ITS NATIVE CLIFF.

Gardeners' Chronicle (December, 1910) as *S. Probyunii*. *S. cochlearis* grows in every garden on sunny rockeries and even in pots.

S. lantoscana is sometimes considered as a form of *lingulata* or even as an intermediary between it and *cochlearis*. It must, however, be considered a true species. (Burnat, "Flore des Alpes Maritimes," Vol. III, pages 260-263.) As cultivated here with the others its characters and requirements are different. The tufts are the largest of all (sometimes they are 2½ft. in diameter) and the flower-stalks are not coloured at all as are those of both other species. The flowers are not quite white, and are, indeed, of rather a dirty colour. The leaves are intermediate between the other two species, as they have the spoon shape of *cochlearis* and the thin base of *lingulata*. It forms dense caespitose clumps of a darker greyish colour than the two others, and is found in a large area extending from the low Valley Roja to the Alps of the Provence. It goes westwards as far as Sisteron in Provence, and forms very large tufts near Le Moutiers de Ste. Marie and in the famous Gorges du Verdon, where I saw the biggest clumps of it I have ever seen. It is found always on calcareous rocks and in dry situations, whether situated in shade or sun, but it grows better on the north side. Engler takes it to be a variety of *lingulata* ("Saxifragales," page 481). There are many intermediate forms between *lantoscana* and *lingulata*, so it is not easy to delimit either species. I found in the high Gorges du Crans more than five different forms between the two types.
H. CORREVON.

Floraire, Chêne Bourg, Geneva.



WHERE SAXIFRAGA LINGULATA GROWS WILD IN THE GORGES DU CRANS.

CORRESPONDENCE

SUCCESS IN TRANSPLANTING.

IN the discussion *re* transplanting Hollies, etc., it seems to me that the chief factor in successful transplanting is missed. That is, the source from which the plants are obtained. Plants obtained from reliable firms may be planted any time from autumn to spring with every confidence—95 out of every 100 will grow. Those secured from unreliable firms, or plants that have been growing in the same position for years, may be transplanted it is true, but in nine cases out of ten will die whether transplanted in the autumn or spring. Therefore, if one wishes to transplant specimen Hollies, Yews, or any other plant, the specimen should be prepared one year for moving the next, the procedure being as follows: A trench should be cut round the whole plant, severing all roots that come in contact with the operator, and should be of such a size as to form a "ball" that can be handled with the strength available. Fill in the trench with light soil in order to induce new roots to form, thereby consolidating the whole "ball." Prepared thus, the plant could be moved the following season with a certainty of success. I am aware that plants such as indicated can be moved without this preparation, but it requires the services of skilled and very able gardeners, with proper appliances for the job, which same very few gardeners possess. Without proper preparation, such as described, the work should be done in early autumn, the earlier the better (in the case of deciduous trees before the leaves have fallen), even if the trees have to be syringed and watered two or three times a day. Do not forget to cut away all crossed or useless wood, remembering that every branch removed is a factor towards successful transplanting.—S. G. SMALLRIDGE.

A SELECTION OF SHRUBS.

I WAS very interested to read "H. E.'s" letter page 157, asking for information about shrub planting. In my opinion this branch of gardening has been very much neglected, especially in small gardens. A judiciously planted bed or border of shrubs is always attractive, as so many varieties are beautiful in leaf, flower and bare stem. What can be nicer in dull winter days than to see the stems of the scarlet Dogwood or yellow barked Willows, and in late autumn the gorgeously coloured foliage of *Berberis Thunbergi*, *Rhus Cotinus* or *Liquidambar*? By careful selection it is possible to have some shrub or other in flower throughout the greater part of the year, starting off with the *Laurustinus* in depth of winter, followed by the golden *Forsythia suspensa* and the sweetly scented but little-grown *Chimonanthus fragrans*. Many of the *Berberises*, too, are early flowering. A place should be found in every garden for the Moonlight Broom and many of the *Spiræas*, such as *Douglasii* (pink), *arguta* (white), *arifolia* (cream) and *opulifolia lutea*. The last-mentioned variety is worth growing on account of its bright golden foliage, especially if associated with the purple-leaved form of *Berberis vulgaris*. *Perowskia atriplicifolia*, with mauve coloured flowers and silvery foliage, is well worth a place. Late-flowering shrubs include the many varieties of *Hibiscus* (*Althea frutex*), *Desmodium penduliflorum* with its panicles of reddish purple flowers, also the blue-flowered *Caryopteris Mastacanthus*, sometimes referred to as the Blue *Spiræa*. After planting very little requires doing beyond thinning out old and exhausted wood and keeping the shrubs from getting "leggy." May I suggest you invite readers to vote for what they think the best

thirty-six hardy shrubs for small gardens. If it could be arranged it would be very interesting.—H. C. P., *Stansted*.

[We have a feeling that readers with small gardens are, generally speaking, more anxious to learn from those with wide experience the best shrubs for their purpose rather than to voice an opinion of their own as to the best selection, necessarily founded on limited data.—ED.]

A BEAUTIFUL WEEPING TREE.

FEW weeping flowering trees can equal the weeping Cherry, *Prunus pendula* (*Prunus Cerasus pendula rosea* of gardeners), the Rose-bud Cherry of Japan. The soft rose flowers are single and of no great size nor special substance, but they are produced with extraordinary freedom. I have in mind a tree worked on a leg of not more than 5ft., which was at the time of purchase considered

A RARE PRIMULA.

I NOTICE in your issue of April 22 you have an illustration of *Primula Fortunei*. Some considerable time ago you had an illustration of this beautiful *Primula* [April 12, 1913, page 182.—ED.] in which both the coarsely dentate leaves and flowers are shown in more detail. It is stated in the letterpress that this is a Chinese species. So far as I have been able to ascertain the place



SPRINGTIME BEAUTY. PRUNUS PENDULA IN BLOSSOM.

a most disappointing specimen. Yet by careful training and judicious thinning from below it now forms an admirable tree, tall enough to walk under in comfort. The enclosed photograph shows a tree with a good leg trained as a bower—which the one previously referred to is not—at New Place, Lingfield, Surrey. The photograph well illustrates the extreme freedom of flower.—H. H.

A VALUABLE EVERGREEN.

A SMALL plant of that dainty evergreen shrub, *Fonicera nitida*, was received from Wisley about eight years ago, and this is now a dense bush of about 7ft. in height and 10ft. across. Until February of this year I had watched in vain for any signs of flowering. I then found it thickly set with tiny buds, and as I considered it very unlikely the blossoms would open so early in the year and in such bad weather as we have had, I took a few branches and placed them in water in a greenhouse and here they seemed quite at home and some flowers opened; also the branches struck root, the smaller the branch the more quickly it rooted. The few flowers which opened were very disappointing after waiting years for

of origin of this plant is uncertain; no one seems to know where it has come from. The specific name *Fortunei* suggests that it may have been introduced into Europe by Robert Fortune, a native of the county from which I write, who visited China four times between 1843 and 1863, and was afterwards Director of the Botanic Gardens at Chelsea. It undoubtedly has been in cultivation for fifty years at least, and was figured by Moore in the *Floral Magazine* for 1806-07 from a plant flowered in the nursery of Messrs. Y. Henderson and Son. It is stated by Mr. Irving that until a few years ago the only specimens known in cultivation belonged to the late Colonel Beddowes, Putney, who had grown it for many years, but it is not known where he obtained his stock. In 1905 Colonel Beddowes presented a plant to the Royal Gardens, Kew, and from this a stock has been raised by division. It is a very easy plant to flower and keep if protected under glass during the winter months and put in a cool, shady place in summer, but it is rarely seen, probably owing to its being a very shy seeder. It can, however, be readily propagated by division. The flowers, which are of a

ilac colour with a yellow eye, appear early in February. It has been stated that this *Primula* is a hybrid between *P. denticulata* and *P. farinosa*, but I cannot agree with this and believe it to be a true species. I have seen good specimens of it both in the cold house at Kew and in the Royal Botanic Gardens, Edinburgh. Some years ago I had several plants and had no difficulty in flowering them.—JOHN MACWATT, *Moreland, Duns*.

[The late Reginald Farrer in his book "The English Rock Garden" describes *P. Fortunei* as a "Chinese species" which "has often been in cultivation," but it is, of course, possible that despite his wide knowledge of Eastern flora he was misled by the specific name and had no definite facts on which to base its origin.—ED.]

GOOSEBERRY BUSHES AS HEDGES.

IN some parts of the country where I was staying recently I noticed that Gooseberry bushes were used as division hedges. There is no reason why they should not be used for this purpose, and if judiciously pruned they should produce excellent crops as well. This is worth a trial, as hedges are, as a rule, very costly and most unremunerative. The large varieties should be used. Pears and some species of Plum are grown for fences, but other fruits might well be tried. The Loganberries and some of the Brambles would make admirable fences if supported here and there with stout stakes. As to ornamental hedges, I noticed recently a Golden Privet hedge dividing a Rose garden. It looked beautiful in the winter landscape.—WALTER SMYTH, *Holywood, County Down*.

NARCISSUS GLANDORE.

I WONDER if Mr. Jacob or some other Narcissus expert would tell us when and by whom the name of Glandore was given to the *Polyanthus Narcissus*, which is so well depicted on the cover of THE GARDEN (April 15). I believe it is indigenous here, for it was the first *Narcissus* I ever saw and gathered, over fifty years ago, from sparse clumps growing at the edges of pastures. These had only two or three blossoms, but brought into the garden and cared for, the size of plant has increased enormously and the blossoms on one stem are as many as in your illustration. The dark green foliage is also greatly strengthened, and the masses my bulbs have increased to have been a wonderful sight this year. A stone font in our church at Easter arranged with them exactly as they grow was a beautiful picture. My long friendship with this *Narcissus* induces me to ask for the origin of the name Glandore. You may not know that Glandore is a coast village in County Cork.—JANE C. CUMMINS.

NOTES ON TOMATO SEEDLINGS.

I HAD much pleasure in reading the "Treatment of Seedling Tomatoes," April 8 issue of THE GARDEN, by the way in which it emphasises the great importance of little things that are so very often overlooked. It is such little items as were mentioned that make so much difference between a real gardener and a careless, indifferent one. There is, however, another item, to wit, the temperature, which is one of the most important. A great number of Tomato seedlings are lost, I fear, owing to the fact that they are hardly kept warm enough, or by an uneven temperature. I have seen batch after batch of Tomatoes almost blue owing to lack of heat, a check from which it takes them some considerable time to recover. From my own personal experience I find the most suitable temperature for seedling Tomatoes to be 65° Fahr. by night and 68° by day, allowing the thermometer to rise a few degrees by sun-heat. May I add that I prefer 2½ in. pots

in preference to 3 in., as the former are less liable to remain sodden with water after "watering in" than are the latter, a very important point, especially during dull weather such as we usually experience during the early months of the year. Again, since a Tomato plant 1 in. to 5 in. high is plenty large enough to plant out in a border, there is little need for a pot larger than a 2½ in. I may state that I scarcely ever lose more than 1 per cent. of my seedlings after they are potted off from the seed-pan.—A. J. P., *Warley Park*.

[Our correspondent's views are interesting but rather discouraging to many amateurs. A night temperature of 55°, or even in exceptionally cold weather 50°, will grow excellent stocky plants. On the other hand, plants grown "soft" in a temperature of 65 will, of course, suffer severely if suddenly exposed to an appreciably lower temperature.—ED.]

PARTNERS.

To a rock, long beaten by sun and storm

On the wind-swept upland ground,

There clings a beauteous living form

Where a Lichen its home has found.

A wondrous alliance here appears

For, on the barren stone,

Two plants unite and live for years

Where neither could live alone.

In the month of May, when the garden glows

With varied charm and power,

The glorious Rhododendron blows,

Queen among shrubs that flower.

Yet here again two powers must meet

To make her beauty known

For, were no fungus at her feet,

No blooms her head would crown.

The seed of a flower of the Orchid kind

In a tropical forest shed

Is doomed to slumber until it find

The needed hyphal thread.

But when they meet the plant is born

And, when 'tis fully grown,

The highest beauty of floral form

It gains—but not alone.

Tho' orchard blossom be fair to see

Unharm'd by frost or rain

Without the work of the humble bee

The promise of fruit is vain.

For the reddening apple by autumn blest

Is born in the time of spring

From a golden grain which finds its rest

By the aid of an insect's wing.

Of growths upheld by partners twain

A nobler still we see:

Science and Practice both maintain

The horticultural tree.

By worthy Practice well supplied

High will it raise its head

With all its branches spreading wide

On roots by Science fed.

A. E. SIMS.

WHAT OF THE DAVIDIA?

IT is now over twenty years since E. H. Wilson, the well-known botanist and traveller, to whom present day gardeners owe so much, sent to this country seeds of *Davidia involuerata* collected in the uplands of Western China. In his fascinating book, "A Naturalist in Western China," Mr. Wilson describes the *Davidia* as one of the most beautiful flowering trees in the whole of the northern hemisphere. Probably many of your readers have more or less established specimens in their gardens, and it would be interesting to know how this tree had adapted itself to this climate. Has

it justified its introduction from a garden point of view? Or is it still too youthful to show its true characteristics. I believe it first flowered at Kew in 1913.—L. BIGG-WITHER, *Wells*.

[The *Davidia*, according to Bean's "Trees and Shrubs Hardy in the British Isles," was first discovered in 1869 by the Abbé David and introduced to Europe by Père Farges in 1897, though Wilson, it is true, sent home a large parcel of seeds during his tour for Messrs. Veitch (1899-1902). There are various types, and the question appears not to have been definitely cleared up as to whether these should all be considered to belong to one species.—ED.]

SHRUBS FOR CHALK SOIL.

I SEND a further list of shrubs suitable for "H. E.'s" shrub garden, which I omitted in my former one. I give them alphabetically. Those marked with an asterisk (*) require sheltered positions: **Abelia chinensis*, slight shade; **Abutilon megapotamicum*, tender, needs winter protection under a south or west wall; *Arbutus Menziesii*; *A. Andrachne*; *Artemisia Abrotanum* (Southernwood), for dwarf groupings in full sun; *Berberis stenophylla* and its forms, *B. s. corallina*, *B. s. Brilliant* and *B. s. coccinea*; *B. semperflorens*; *B. Wallichiana latifolia* (Knightii). Brooms: *Cytisus Andreanus* (Daisy Hill variety), *Dallimorei*, *Newry Gold* and its variety, *Newry Gold* "late flowering." *Cassinia fulvida* (*Diplopappus*) is most valuable for dwarf groupings; **Carpentaria californica*, in a warm, sheltered position; **Camellias*, in a sheltered place or thin woodland, vars. *C. Sasanqua*, *Azuma-Mishiki*, *Onigoromo Mine-no-yuki* and *Mikumiko*; *Cotoneaster Franchetii* (one of the best) and its varieties, *C. F. fructo-maxima*; *C. horizontalis* and *C. h. fructo-sanguinea*; *C. humifusa* syn. *Dammeri*, *C. buxifolia* and *C. rotundifolia*; but of the *Cotoneasters* *C. Simonsii* is the cheapest and is obtainable in large quantities; *Daphne pontica*, and probably also *D. Blagayana* if its particular cultural requirements are known—it likes best to grow through a little mound of stones, added to each year as the plant increases. It is, indeed, the best of all the *Daphne* tribe. Of **Escallonia*s, I think *Philippiana* (white sweet-scented flowers), *langleyensis* (rosy carmine) and *Donard Seedling* (pink) are, perhaps, the best. *Eucalyptus coccifera* is interesting as being fairly hardy in a sheltered position; *Eugenia Ugni*, with its edible fruits, and a companion plant to it, *Myrtus Jenny Reitenbach*, both fairly hardy in the South of England under a wall; *Euonymus radicans kewensis*, a miniature prostrate variety, and *E. r. variegata* (I think there is a variety known as *E. r. var. pictis aureis*); **Garrya elliptica* should on no account be omitted; *Cytisus praecox* and *C. mompessulanus*; *Hypericum chinense* and *H. hircinum majus*. The *Holly*: *Ilex crenata* is an interesting variety much used in Japan in the way we use *Box* edgings. *Jasminum nudiflorum* should not be forgotten, it will ramble over anything or make isolated spreading bushes if left to grow as it will; **Laurustinus*—there is a purple-leaved variety, somewhat tender, once obtainable from Lissadell; *Lauro-petalum chinense*; *Olearias*, never very beautiful, are nevertheless useful for exposed positions; **Phormium tenax* and *Yuccas* of all varieties make fine groups, especially if planted with *Kniphofias* and *Pampas Grass* and in sheltered places also with *Bamboos*; **Titosporum Tobara* is not always hardy, but it is worth trying in all but very cold localities; **Photinia japonica* (syn. *Eriobotrya japonica*), **Photinia serrulata* (syn. *Crataegus glabra*), Chinese Hawthorn, *Pyracantha Gibbsii* and *P. Lalandi*; *Ribes laurifolius*, almost a white variety of the common flowering Currant; *Rosemary* should on no account be omitted, a good

variety is that known as Miss Jessup; Santolina, a dwarf grey-leaved plant useful for dry banks—the variety major becomes quite a bush and has yellow flowers towards the autumn; *Stranværia undulata* is an interesting low-spreading evergreen shrub which would do well on a chalk soil; there are many Veronicas—perhaps the variety *Traversii* is as good as any, and the winter-flowering form of

parviflora; *Viburnums plicatum*, *macrocephalum*, **Carlesii* and **fragnans*; *Weigela Conquète* and *Bouquet Rose*; *Xanthoerans sorbifolia*. There are several *Ericas* that do not thrive on a limestone soil, but *Erica carnea*, *E. Calluna vulgaris* and its garden forms (the best is *E. v. Alportii*) and possibly *E. codonodes* might be tried.—EDWARD SHOOTSMITH.

liquid manure. Always use tepid water when watering or syringing the plants. The foliage should be syringed twice daily, damping all dry surfaces and pathways freely. Support the fruits before they become too heavy. Square pieces of netting with a length of string at each corner are most suitable for this purpose.

The Flower Garden.

Bedding Plants in frames should receive careful attention at this time. Avoid overcrowding and see that watering is not neglected. Move the hardier plants into the open and thus relieve the frames for others less hardy. Keep covering material at hand in case of late frosts.

Biennials.—To have well established plants of Sweet Williams, Canterbury Bells, *Agrostemmas*, etc., before winter sets in, seed should be sown now. Although these may be sown in the open border, the most economical way is to sow in boxes and germinate in a cool frame, pricking out into nursery lines immediately the seedlings are of a suitable size.

Herbaceous Pæonies are gross feeders, so where they are grouped in the border or occupy beds in the flower garden they should be given a nourishing mulch of well decayed cow manure. This is richer than the ordinary stable manure and suits these plants best.

Ecuremocarpos scaber.—Plants of this delightful old-fashioned perennial climber that have been raised from seed should now be planted out. If associated with Canary Creeper or Clematis it is singularly effective, with its profusion of orange red flowers and finely cut foliage. It is hardy in most districts and is partial to a light soil.

Aquatics.—Now is the time to plant Water Lilies and numerous other water plants. In planting *Nymphæas* shallow baskets should be used. Fill with turfy loam and leaf-mould, and after inserting the plants cover the surface with moss and run several strands of tar-string over the top. This keeps plants and soil in position when the basket is being lowered into the water.

JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Tomatoes.—Plants for growing outdoors should be potted into 5in. or 6in. pots and kept growing in a light position in a house or pit having a temperature ranging from 50° to 60°. Similar treatment should be afforded plants which will be fruited in cold houses after early vegetables, etc., are cleared, as it is an immense gain to start with vigorous plants. When transferring the plants from their pots to the borders it is essential that the latter are thoroughly firmed, as when Tomatoes follow Peas or Beans in a loose compost the setting of the lower trusses of fruits is often disappointing, and the plants also are inclined to make much leafage. Plants in bearing in the early house should be regularly supplied with stimulants and given top-dressings of old manure and loam where it is possible. Remove regularly all lateral growths, and unless there is any particular reason for not doing so, gather all fruits soon after coloration has set in and remove to a medium warm fruit-room. In this way a perfect finish can be relied upon and the plants' energies kept concentrated upon developing fruits.

Potatoes.—Arrange if possible for some protective material to be at hand as the growths of the early plants show above ground. A little soil pulled up round them with the hand will often save a great many. Some dry straw or bracken affords excellent protection and need be only lightly strewn on.

The Flower Garden.

Asters of the annual class are some of the most useful plants we have. All sections are really very good, but for decorative purposes the *sinensis* and ray-floret types are the best. In addition to any possible early sowing under glass, this annual amply repays another sowing outside during May. Plants raised thus and given good treatment will flower splendidly until unfavourable weather spoils them in the autumn. Another point favourable to a late sowing is that some of the plants are most useful for lifting and potting for a cool greenhouse, a point worthy of consideration in small gardens.

Increasing Perennials.—These plants are unquestionably becoming more popular than ever, and with reduced status and expenditure it is not a difficult matter to see why. Plants requiring much time and labour spent upon them under glass before they become fitted for their outside positions must, as a natural order of management, give place to those less expensive to grow. The first half of May is a good time for many perennials to be increased by seed. In a prepared bed of light soil sow thinly in drills about a foot apart, and when sufficiently advanced prick out in ground where they may remain until required. Choose a showery spell for this latter operation if possible. The following are all readily raised from seed: *Aquilegia*, *Alstroemeria*, *Anemusa*, various *Campanulas*, *Chelone barbata*, *Delphiniums*, *Erigeron*, *Geum*, *Gallardias*, *Helianthus*, *Hollyhocks* and *Lupins*.

The Hardy Fruit Garden.

Strawberries.—Plants that have fruited under glass are useful for making an outdoor bed for another season. When it is decided to make use of them in this way it is essential that the plants be kept clean and regularly watered after the fruits are gathered. It is also helpful and enables the plants more quickly to recuperate after cropping if they are placed in a partly shaded position until the planting can be done. By the aid of a pointed stick a portion of the old balls of soil should be reduced and the roots disentangled before placing them in the ground. Plant freely and water the plants afterwards, repeating the latter operation several times if the weather be dry and place a little mulching material round each plant. The bed of plants fruiting this season should have the hoe occasionally plied between

the rows to check small weeds and to allow sun and air to sweeten the soil. A dusting of old soot and of an approved artificial manure will be repaid later on.

Fruit Under Glass.

Border Watering.—The importance of this operation at all seasons in bearing upon the results obtained from practically all fruits cannot be too seriously realised. With lengthening days and increased sun-heat all plants carrying crops require great care to see that, through root dryness, they are not prevented from bringing their fruits to the highest state of perfection. Where crops of Grapes, Peaches, etc., are produced in pots or tubs for early work it is essential that frequent and copious waterings of diluted manure be given to prevent exhaustion, and a liberal top-dressing and mulch also be added. Healthy plants in well drained borders during the next few months will require a thorough soaking every two or three weeks in addition to plenty of good surface waterings during bright days when there is plenty of air circulating.

H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Beet.—The principal sowing of this desirable vegetable should now be made. To secure a profitable crop Beet should be grown on a rich heavy soil which has been deeply trenched and subjected to liberal manuring the previous season. Freshly manured land encourages coarse specimens, which are seldom fit for kitchen use. Choose reliable sorts, and in gardens where difficulty is experienced with the long-rooted varieties a sowing of the round type should be tried, Sutton's Globe being particularly favoured and of easy culture. Sow in drills from 15ins. to 18ins. apart, thinning out to 9ins. apart in the row. One ounce of seed should be sufficient to sow a row of about 45ft.

Leeks raised under glass for the purpose of growing in trenches will now be ready for transferring to their quarters in the open. Leeks are gross feeders and enjoy plenty of farmyard manure worked into the bottom of the trench. Should the weather be dry water regularly.

Cabbages.—Plant out successional batches as ready and keep the hoe going among early crops.

Celery Trenches.—Have these prepared at the earliest opportunity, placing a liberal quantity of manure at the bottom of the trench and incorporating it with the soil. Where the natural soil is lumpy or clayey it is of considerable advantage to add a quantity of old potting soil, as this gives the young plants an encouraging start and facilitates the work of planting.

Mushrooms.—Make up a good-sized bed now so that generous supplies may be obtained during the month of June. See that the bed is in proper condition for spawning and do not rely on old spawn. Obtain the best spawn that can be procured.

The Hardy Fruit Garden.

Strawberries.—Before applying a mulch to Strawberry beds run the Dutch hoe between the rows. This aerates the soil and also checks the growth of weeds.

Peaches and Nectarines in bloom should be hand fertilised, as insect life at this season is not much in evidence, especially when frosty nights are experienced. After the fruits are set a soaking at the roots with soft water will be beneficial, as wall trees seldom get their due portion of the rains owing to their sheltered position.

Fruits Under Glass.

Melons.—The fruits on early batches will now be swelling freely, so should be assisted with weak

CONSERVATORY AND GREENHOUSE.

Cestrums are very useful plants for clothing pillars or for training on back walls of conservatories or greenhouses. *Cestrum elegans* and *C. Newellii* are—or used to be—common plants in gardens, but the beautiful yellow-flowered *C. aurantiacum* is perhaps not so generally known. *C. Smithii*, with pale pink flowers, is of a different type, and is better adapted for pot cultivation, as it naturally makes a dwarf bushy plant. The stronger-growing species are really seen at their best when they can be planted out, although they may be very well grown in large pots, especially if they are kept well fed when they have well filled their pots with roots. They are all easily propagated by means of cuttings. Unfortunately, they are very subject to attacks of green fly, but this may be kept in check if the plants are sprayed frequently with some approved insecticide.

Clerodendron fallax.—This plant is generally regarded as a stove plant, and is usually grown for winter flowering. In the neighbourhood of London fogs usually spoil it during the winter months, so the plants should be grown for the conservatory for flowering during August and September. Plants raised from seeds sown earlier in the year should be potted on as they require it. As it is a quick-growing plant there is still time to raise it either from seeds or cuttings, growing it on in a warm house in a temperature of 50° to 60°.

Clerodendron fragrans fl.-pl. with its white double flowers is worth growing for its delightful fragrance. It is easily propagated either by means of ordinary or root cuttings. Its cultivation presents no difficulty, as it is almost hardy in dry borders at the foot of a warm wall.

Clerodendron Thomsonæ, generally regarded as requiring stove treatment, is really quite happy in an ordinary conservatory. Fine specimen plants can be grown in large pots or tubs, giving them intermediate house treatment while making their growth. When well in flower they should be removed to the conservatory, where they will remain in full beauty for a long time.

Clerodendron ugandense has beautiful blue flowers, and is an excellent plant for the cool conservatory or greenhouse. It should be planted out and grown in bush form, or it may be used for clothing a rafter or pillar.

ORCHARD

GARDEN

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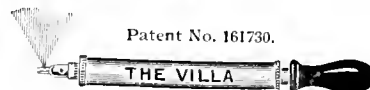
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THE SO-CALLED AMERICAN PLANTS

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PRACTICALLY every garden on suitable soil has its Rhododendrons and Azaleas. It may probably have a portion—oftentimes not an adequate portion, however—devoted to hardy Heaths, but the remaining members of the great family of lime-haters—American plants as they are generally called—are, as a rule, sadly neglected.

Wherever the natural soil is not pronouncedly calcareous, American plants can be persuaded to thrive. Where Rhododendrons are happy practically all the rest will be at home. If Rhododendrons have not been tried a glance at the vegetation of the countryside should give a good idea of the soil preparation which will be necessary. If any of our native Heaths are in possession the soil obviously is suitable already and the presence of the Whortleberry or Bilberry, as it is called in some localities (*Vaccinium Myrtillus*) is an equally favourable sign, though hardly a better one than a growth of Bracken. Wherever Birches and Scots Firs contribute a considerable portion of the charm of the landscape nothing but a certain addition of humus by means of leaf-soil and spent manure will be necessary to achieve success. If fine Elms are a feature of the countryside a supply of lime is indicated and soil analysis may be called for, but it often happens that the lime-bearing strata—perhaps a stiff loam—is at some little depth and will cause no trouble. Probably two-thirds of the gardens of England might be made entirely suitable for American plants without any great trouble or expenditure.

Having mentioned Rhododendrons, and included Azaleas and Heaths, one has in the view of many gardens practically covered the field of American plants, but there are, in fact, numbers of interesting and really beautiful American plants quite outside these genera.

The *Kalmias*, more often seen than some others, are valuable all the year round for their beautiful foliage, and although their flowers are less showy than those of the Rhododendron, they are very handsome and are produced when the "Rhodos" are over. The Mountain Laurel (*Kalmia latifolia*) has leaves very much like those of a Laurel, although there is something in the gloss of leaf which is different to anything seen in the Laurel family. The flower clusters are freely produced and varieties are to be obtained in which the

flower-colour varies from pale blush to clear rose. Of the other species the dwarf-growing *Kalmia angustifolia* is most valuable. Quite unlike the Mountain Laurel in appearance, its deep red blossoms are also produced in clusters. *Kalmia glauca* has rather handsome glaucous foliage, but its flowers in shades of washed-out purple are produced during Rhododendron time. The small-growing *Kalmia hirsuta* is chiefly remarkable in that its rose flowers are solitary.

Many excellent shrubs with bell-shaped, more or less Lily-of-the-Valley-like flowers, are grouped by gardeners under the genus *Andromeda*, though botanists classify most of them as *Cassandra*, *Cassiope*, *Leucothoe*, *Lyonia*, *Oxydendron* or *Zenobia*. Perhaps most valuable of all are those classed as *Pieris*, of which the most commonly

seen is the early-flowering and compact-growing *P. floribunda*, distinguished by its hardihood and beauty of form. Larger of growth and whiter of flower is *P. japonica*, but it needs a more sheltered situation than *P. floribunda*. An improvement on the last named, so far as the flowers go, is the recently introduced *P. taiwanensis*, of which, however, the hardihood has to be proved. Of the stature of a small tree is *Oxydendron arboreum*, a deciduous species with large terminal panicles reminiscent of *Pieris japonica*. *Cassandra calyculata* is an accommodating species which will flourish on dry banks where little else except, perhaps, the Rose of Sharon (*Hippuricocalycium*) would grow. Its greenish-white blossom is pretty enough, but being carried beneath



THE "MOUNTAIN LAUREL," *KALMIA LATIFOLIA*.

ST. DABEOC'S HEATH, *DABOECIA POLIFOLIA*, A LONG-FLOWERING SPECIES.*PIERIS FLORICUNDA*, BEAUTIFUL IN EARLY SPRING.

the arching shoots like the bells of Solomon's Seal (*Polygonatum*) is not conspicuous. There is a form larger alike in growth and flower called major.

Tiniest of all the so-called Andromedas is *Cassiope tetragona*, with the congested rather "Japanesque" habit characteristic of Arctic plants. Despite the characteristic pure white bells it reminds one of some of the tiny shrubby Speedwells, especially of *Veronica loganioides*. A westerly aspect suits it best, as despite its Arctic origin it resents too much frost and thaw.

A noteworthy deciduous shrub is *Leucothoe racemosa*, which attains a height of 4ft. or so and is smothered in July with quantities of fragrant white flowers in spikes. Flowering a little earlier, evergreen and of a looser habit of growth, *L. axillaris* is also quite a desirable species. *Lyonia ferruginea* is a shrub attaining a height of 6ft. or so, but of little interest, save to the collector, and not over hardy in most parts of Britain.

Zenobia speciosa grows to a height of 3ft. or 4ft. It has characteristic, strongly veined evergreen foliage, and the white bells so characteristic of the family. Still left under Andromeda is *A. polifolia*, a native plant with a procumbent habit of growth, narrow, shining leaves and flowers of a closed bell-shape produced practically all summer. Pink-flowered forms are not uncommon. Closely related American forms vary very considerably both in flower and foliage. Such are, for example, *A.A. canadensis*, *angustifolia*, *rosmarinifolia* and *rubra*.

The Pepper Tree (so called), *Clethra alnifolia*, is a very pleasing and fragrant shrub, with a strong *pendant* for moist soil, which flowers in late summer and early autumn. It attains a height of 5ft. or so. This very desirable shrub is deciduous. Somewhat similar in general appearance and also deciduous, are *C.C. acuminata*, *paniculata*, *scabra* and *tomentosa*. The first named is a plant of colder habit of growth. The evergreen *C. arborea*, also summer-flowering, succeeds only near our

seaboards or milder localities inland. Even so, except in specially favoured spots, it needs the shelter of a wall, which is unfortunate, as it is, indeed, a beautiful shrub.

Gaultheria Shallon is really valuable because it succeeds in shade, even woodland shade, as well as in the open. It produces racemes of pink and

white flowers and edible purple berries. *G. procumbens* is a miniature with not very conspicuous white flowers which are followed by red berries that remain on the plant until spring.

The *Menziesias*, properly so-called, are rather dingy shrubs and scarcely merit cultivation, but the St. Dabeoc's Heaths (*Daboecia*), often listed as *Menziesias*, are wonderfully beautiful, especially some of the new cross-bred forms. *Daboecia polifolia* itself varies from ruddy purple to pure white, and there is a curious form (listed as bicolor) which bears purple and white flowers on the same bush, often on the same spike. *D. p. globosa alba* is different in habit to the typical plant, being looser in growth and more spreading, while the bells, instead of being elongated and pointed towards the bottom are globular in outline. Crosses between this form and the typical one give plants of similar habit to *globosa* with flowers in pretty shades of lilac and rose.

Of the *Vacciniums*, the Whortleberry (*V. Myrtillus*), is readily naturalised in lime-free soil with a certain amount of leaf-soil incorporated, but it has no special beauty. An American relative, but dwarfer in all its parts—*V. caspitosum*—is useful for rockwork. There is in cultivation a white fruited form of the common Whortleberry. Somewhat like our native fruit, but quite distinct, are the two American species, *V. pennsylvanicum* and *V. canadense*, which do not, however, fruit very freely in Britain. The Cowberry (*V. Vitis-idea*) is a dwarf-growing plant (6ins.) with exceptionally beautiful foliage, rather inconspicuous flowers and deep red berries. The so-called Bog Bilberry (*V. uliginosum*) largely replaces in our Southern Counties the true Whortleberry. It is hardy and worthy of cultivation.

Those giant relatives of the Heaths, the Arbutuses, are often included among "American" plants, though they have no pronounced antipathy to lime. *Arbutus Unedo* is the handsome Strawberry Tree, but the gem of the genus is the gracious Madroño, *Arbutus Menziesii*.

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PLANTING WATER LILIES

Alternative methods described, with their advantages and disadvantages.

THE season has come round when those having ornamental waters may plant the beautiful hardy *Nymphæas* which everyone admires. Before describing the various methods of planting it may be advisable to reiterate what has been said and written so often, namely, that Water Lilies, even the hardiest, will not succeed in cold running water nor where there is considerable shade. Comparatively warm water in summer is necessary for their very existence, and full or almost full sunshine must be available if they are to flower freely. This appreciated, it should further be noted that the new orange-shaded hybrids with more than a touch of less hardy sap in their tissues, and the New World odorata section — so deliciously fragrant—should be accommodated with the warmest, sunniest and most sheltered corners available, leaving the bleaker open waters for our native white Water Lily, *Nymphæa alba*, and for the probably equally hardy *marliacea* hybrids. *N. marliacea carnea* is indeed wonderfully vigorous and free, and *N. m. chromata*, with beautiful mottled foliage, if somewhat smaller in leaf and flower, seems equally hardy and accommodating.

For shallow waters restricted in area the Laydekeri hybrids are most useful, but they lack the vigour and hardihood of the "marliaceas." For specially shallow waters—ft. or even less—and for tiny pools the miniature white *N. pygmaea* and its soft yellow form *N. p. helvola* are invaluable. Both are amazingly free-flowering.

Among so many treasures it might, however, seem invidious to make a selection, so we will pass straight on to methods of planting. The most usual method is probably to sink the rhizomes in flat, round baskets such as nurserymen use for packing trees, etc. A good compost of sound turfy loam with a proportion of decayed cow manure or other source of humus is used to plant the roots in—the rootstocks being buried. The whole is next mossed over, and tarred string, drawn through the baskets below the rim and "criss-crossed," prevents the roots from floating out before they can get established.

Another method often employed is to cut a hole in the centre of a really large turf—as near a yard square as the sod will hold together—to pass the rhizome through and peg the opening together, also pegging a smaller turf to the large one from below with sufficient compost to give the leathery

roots presently to be formed a start in life. This method, since it needs no baskets—which do not always look pretty when seen through clear water—is less expensive, but it must be confessed

that the large turves are not easy to manipulate. A couple of planks if the pool is a small one may be used to slide down the baskets or turves; otherwise, the only alternative to draining is to use a punt.

PRESENT-DAY DAHLIAS, THEIR ORIGIN AND DEVELOPMENT.—I

THE SINGLE-FLOWERED TYPES

FASHIONS in Dahlias do not change as rapidly as Parisian fashions, but they do change and fairly rapidly, too, in these days. For nearly a century after their introduction in 1789 there was but little variation beyond the gradual development of the double or show flower. The acme of Dahlia

of the present day, they gave great impetus to Dahlia cultivation, as many were tired of the formal show type and gladly welcomed the lighter and more elegant single and semi-double forms.

The greatest excitement was caused by the introduction of the Cactus form, which came direct from Mexico, the home of the Dahlia, and was called *Juarezii*, after the President of the Republic. The flower was composed of long, narrow, recurved florets with a close centre, similar in form to a Cactus, hence its name. The colour was brilliant crimson scarlet, and formed a striking contrast to anything yet introduced. *Juarezii* thus became the progenitor of the new class of Cactus blooms, and also exerted considerable influence in the production of other types.

Thus the centenary of the introduction of the Dahlia closed with promising breaks for the future, and since that time we have seen rapid developments in various directions. These are described under their different heads in the following article.

THE SINGLE VARIETALS.

In the single flowers we had at the time of the centenary some good varieties, such as *Paragon*, *Stella Bianca*, *Scarlet Gem*, *Formosa*, etc., and from these progenitors many beautiful varieties were raised which soon became most popular. The smooth recurved florets, even in outline and of most lovely shades of aesthetic colours, with their long wiry stems, make them great favourites for cutting, while in the garden they give a wonderfully brilliant display. One point is of great importance in the cultivation of this section: that is, to take off the seed-pods regularly as soon as the petals drop, and another point is most important in cutting for indoor decoration

which is, to cut the flowers quite young, before they have fully expanded.

A few worth mention as among the best at the present time are *Brilliant*, *Columbine*, *F. Galsworthy*, *Lady Bountiful*, *Marion*, *Miss Roberts*, *Mrs. Johnson Hicks*, *Owen Thomas*, *Rosemary Bridge*, *Snowdrop*, *Wm. Parrot* and *Winona*.

THE COLLARETTES

The *Collaquette*, a form of Continental origin, was quite an innovation. It is perhaps more



DAHLIA WHITE STAR.

bliss was the production of a bloom with a mass of even florets of perfectly globular form, and old-time growers could be seen at the exhibitions bending over their blooms with ivory tweezers correcting the expansion of the florets in order to set up perfect flowers.

Towards the end of the centenary a few innovations were creeping in. There was a return to the early form of single and semi-double flowers. Although these were nothing up to the standard



TYPICAL OF THE STAR VARIETIES,
REIGATE STAR.



THE NEW SEMI-DOUBLE COLLARETTE
VARIETY NOVELTY.



A CHARACTERISTIC EXHIBITION SINGLE,
FRANK GALSWORTHY.

startling than beautiful. The usual form is a single row of outer florets with an inner row of smaller tooth-like florets at the base, contrasting in colour with the outer florets. This quickly took the public eye, and though somewhat wanting in refinement, has been greatly sought after. It certainly is a showy flower, both for garden or house decoration. The following are some of the most useful varieties: Admiral, Bonfire, Colleen, Diadem, Eden, Evangeline, Evelyn, Jean, Juliet, Mrs. Courage, Scarlet Queen and Ustane

THE STAR SORTS.

The latest distinct break has been the introduction of the Star Dahlias. These are so distinct from any others that on their first appearance at the exhibitions they were scarcely recognised as Dahlias. The white variety, with its snow white florets of a cup shape with an orange yellow centre, resembles more closely a Water Lily than a Dahlia. The flowers are rather small, with from two to four rows of petals slightly incurved and pointed, forming a cup-shaped flower with a golden disc. The neat flowers are gracefully posed on long, stiff, wiry stems. They lend themselves wonderfully to light arrangement when cut, in vases, bowls, epergues or baskets. The plants are of medium height, of close habit and wonderfully free in flowering, so that they are practically unsurpassed for either garden display or indoor decoration, and they are now produced in a number of beautiful colours. Some of the best varieties are Autumn Star, Avoca, Coral Star, Crawley Star, Crimson Star, Cuckfield Star, Horley Star, Morning Star, Oriole, Primrose Star, Reigate Star and White Star

NOVELTY.

The latest new form to make its appearance is

the semi-double Collarette named Novelty. This has exactly the form and habit of the Collarette, but instead of a single row of outer florets it has three or four rows, each with the distinct con-

trasting floret at the base. This, as exhibited last autumn, was considered to have promise of something useful.

JOSEPH CHEAL.

(To be continued.)

LUPIN BORDERS

The writer describes how a succession of bloom may be maintained in borders all summer.

IT is sometimes said that the period of bloom of Lupins is so short that they are hardly worth a prominent place in the garden. This is not so, as many of the new hybrids remain in bloom for quite a long period if the spent spikes are cut off. I propose, however, to show how borders can be arranged so as to give

a wealth of blossom from the Lupins, and yet remain attractive when they are over.

The Lupins illustrated are in two long borders, each side a flagged path. The borders are roofed, long and roofed wide. The soil is light and *limy*. We never had any success with Lupins until we tried them in a border where plenty of lime had been applied. Since then we have always given them what they evidently desire, although this is contrary to the opinion of some gardening writers.

Most of our Lupins are self sown and we get a wonderful variety of colour and very strong plants. There are all shades of purple, pink, "mother-o'-pearl" and white. We have one seedling, a hybrid between the tree and herbaceous in growth, with very fine spikes of pale grey and lilac colouring. It reminds one of an old-fashioned lilac print dress.

Behind the Lupins are two rows of Delphiniums, mostly raised from seed, with, here and there, a clump of such fine varieties as Willie O'Brien, Cory, Capri, Belladonna, etc. Behind the Delphiniums are posts and ropes with climbing Roses. In front of the Lupins are Canterbury



REGIMENTS OF LUPINS.

Bells, chiefly pinks and whites, and the beds are edged with that invaluable Catmint, *Nepeta Mussinii*. As soon as the best of the Lupin bloom is over they are cut back and the plants are well mulched. A few of the best spikes are left for seed.

In the course of a week or ten days the Canterbury Bells, Delphiniums and Roses are in full blast and the Lupins are not missed; indeed, the effect at this stage is eminently satisfactory. The photograph was taken last summer, and, because of the awful drought, the plants were not up to their usual standard. Just as the Lupins are going over I dib in Snapdragons wholesale all over the bed. Wherever there is an inch of space in goes a Snapdragon. For this purpose I mostly use the tall varieties and keep to shades of deep crimson, apricot, yellow, orange and white. These are brought on from seed sown early in the year. By the middle of July they are in bloom and blend well with the Roses behind, which consist of Emily Gray, Sander's White, etc. The Snapdragons remain in flower until frosts come.

The Delphiniums are cut right down as soon as they are over, well mulched and watered, and they give us a fair show in September and October. The Lupins also wake up and give a second bloom, but this is not to be compared with their first "shout."

It will be seen by the foregoing that it is a very simple matter to keep two long stretches of borders full of bloom from June until late autumn. These borders are greatly admired by all who see them

E. G.

MAY-FLOWERING TULIPS IN THE GARDEN

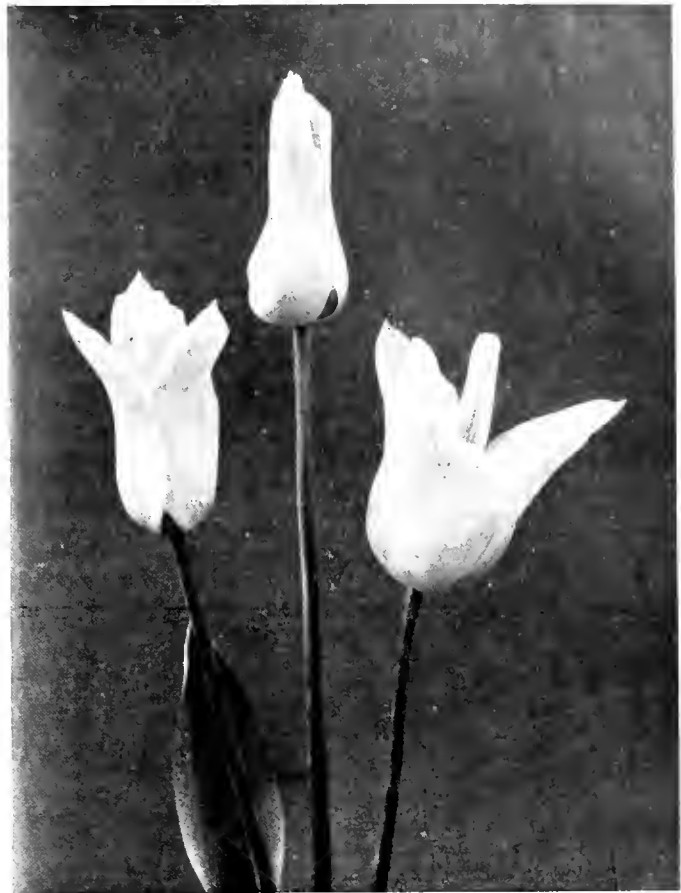
A Word of Praise—Lifting and Storing—Dutch "Breeders"—The Difficulty of Selection—Who can Pick out the Best?—Some Personal Favourites.

THERE is very little doubt that, at the present time, May-flowering Tulips are among the most popular occupants of our gardens. The reasons are not far to seek. We like their bright colours. They flower at a time when, in a sense, they are the monarchs of all they survey. There is nothing just then to compete with them. Lastly, they are so useful for cutting, more particularly the Darwins. The same is true, to a lesser extent, as regards the Cottage section, although here we get some varieties like retroflexa (a pointed flower of soft yellow colouring), Picotee (also pointed, white, edged rose) and La Merveille (a beautiful shade of orange red), which are at the top of the tree for this purpose.

It does not come strictly within the scope of this article, but I cannot pass over without a word of reference the adaptability which nearly all the Darwins and a certain number of the Cottage, such as Inglescombe Pink (buff pink), have comparatively recently been found to possess for growing under glass. I mention it in order that I may warn people who hear of this for the first time against thinking that the same treatment which suits the old-fashioned "earlies," such as Prince of Austria, Cottage Maid and Prince de Ligny, also suits these. Undoubtedly their cultivation under glass is not quite such a simple matter if they are to be had in flower in January or February; but, on the other hand, if April is early enough, there is little difficulty, given the possession of a cold frame and cool greenhouse.

I pass on now to the immediate purpose for which I have taken up my pen, namely, May-flowering Tulips in the garden. It is more than likely that in a good many places they have been used for bedding either by themselves or in combination with other plants, and that the ground is wanted for other things before their foliage has begun to die down. I want to point out that they need not be dug up and thrown away. It cannot be too widely known that if each individual is *carefully* lifted with its leaves and roots as little damaged as possible, and then "heeled in" on some unused bed which is not too much exposed to the heat of the sun, the bulbs may be saved for another year. I know of one large garden where "heeling in" is dispensed with, as the plants are just laid thinly on the ground at the foot of a north wall until the foliage has died down. All the same, I would recommend heeling in if the time and labour involved in the operation are not considered too much.

The question will soon arise as to what is to be done with the bulbs when the foliage has died down. Hands off them until then is the golden rule which should never be broken. If the soil is fairly light, there is no reason why a clump or a bed need be disturbed. The bulbs will have increased to a greater or lesser extent, according to the variety and the suitability of the soil, and when flowers come a second and perchance a third time all that will happen is that there will be a mixture of big and little blooms which for many is as pleasing as the stiffer appearance of a newly planted mass of first-sized bulbs. In stiff soil I advocate annual lifting. Slugs are very fond of Tulip bulbs, and the hollow ways formed from the top of the ground to the bulb by the decayed stems are very convenient high-ways for the hungry or, possibly, the gourmandising slug, and from personal observation I think full use is made of them. Again, if a garden is planted with nice,



THE ROSE-BUD SHAPED TULIP ELLEN WILLMOTT.



THE ROSE, EDGED YELLOW, JOHN RUSKIN.

it should be remembered that mice, too, love a good meal of Tulips; while as for rats, where they are there can at no time be any Tulips. When, many years back, I visited the Scilly Isles, I was told it was impossible to grow Tulips

For this drying stage any airy, but not draughty room or shed where the sun's rays can be excluded may be used. When the bulbs are *perfectly dry*, they may be cleaned, the offsets removed, and the whole of them stored in open trays or on shelves

one side for planting in October or early November; then all that are as large as a hazel nut. These second-sized bulbs should be put in nursery beds not later than the end of September; if in the first or second week of that month, so much the better. The others may as well be thrown away unless they are a very expensive variety. How many varieties there are nowadays!

The latest division is that of Dutch and English Breeders. These have for the most part dark-coloured flowers, and the Dutch are in a very decided majority. Louis XIV, Bronze Queen and Dom Pedro are well known examples. For practical purposes they may be considered to belong to the "Cottages." In fact, many catalogues still make no distinction between them. In no end of things it is difficult to be definite, in none more so than in making a selection of the best. This was very strikingly brought home to me as I stood with Miss Willmott before the splendid exhibit of Mrs. Berkeley of Spetchley's Polyanthus. I began to point out which ones I thought the best. She let me go on for a time, and then said, "Do you know nearly every variety has been picked out by someone or another as the *best*? Ought we to use that word as freely as we do?" I fully appreciate the force of the remark, and yet I think readers expect wretched distracted writers to make selections.

The names that follow are my selection of some of the May-flowering Tulips that I like the best for themselves alone, without considering any garden colour scheme or arrangement or any matching of rooms. I take the Cottage first as being the older section. Long before the late Mr. Krelage introduced the Darwins we had, thanks to the foresight and labour of Mr. William Baylor Hartland of Cork and Mr. Peter Barr of London, a goodly number, which has not grown less with time. Such varieties as Gesneriana spathulata, La Merveille, Orange King and Marksman for red shades; Avis Kennicott, Inglescombe Yellow and Ellea Willmott as yellows; Goudvink, Boadicea and Golden Bronze as bronzy yellows; Inglescombe Pink, Picotee and Mrs. Kerrell as pink and rose and white shades; Dom Pedro and Velvet King for dark shades; and John Ruskin, Faerie Queen and Beauty of Bath as indescribable blends of beautiful soft colouring, with Golden Crown with its yellow petals deeply edged with red, are all, in my way of thinking, extremely beautiful and for the most part of a reasonable price.

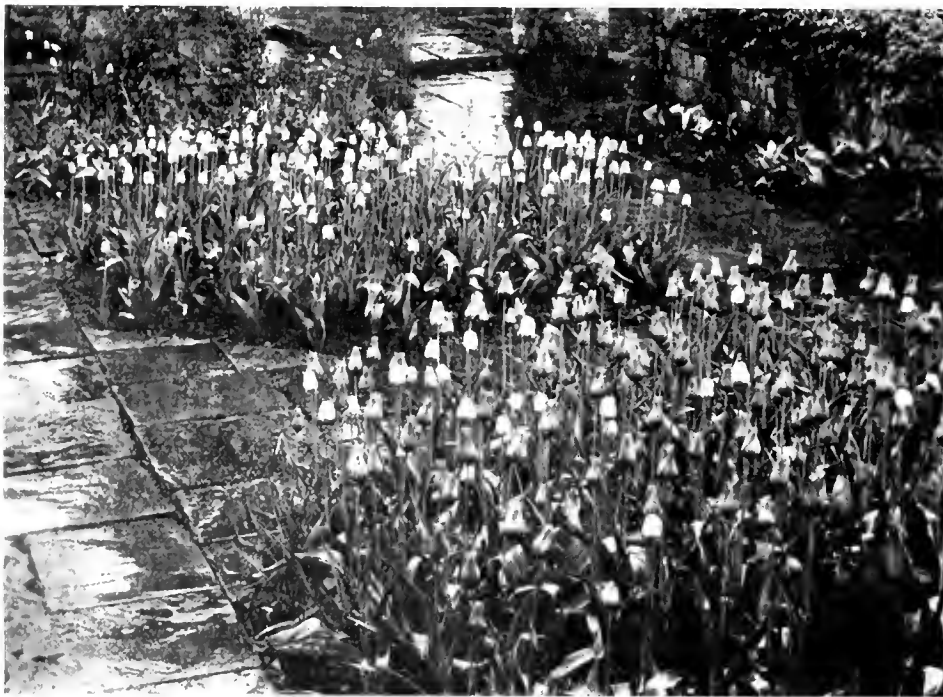
As some of my favourite Darwins I would name Farncombe Sanders, Professor Francis Darwin, Pride of Haarlem and Louise de la Vallière for reddish shades; Ronald Gumm, Valentine, Melicette and Euterpe for pale purple or mauve; The Bishop, Moralis, Faust and Jubilee for dark varieties; with Clara Butt, Baronne de la Tonnaye, Flamingo, Suzon, Prince of the Netherlands and Sophrosyne as roses or pinks.

The foregoing selections show the wide range of choice with which May-flowering Tulips provide us. A further question naturally arises as to their disposal in our gardens so as to make the best of them. If the Editor will allow me, I propose to follow up this cultural article with one giving a few general hints about their arrangement.

JOSEPH JACOB.



MAY-FLOWERING TULIPS ARE SPLENDID FOR BEDDING.



"WASHED IN DEW."

there on account of the vast multitudes of these animals which had their homes in the rocky cliffs of the coast.

Let us now suppose the bulbs have been lifted, what must be done then? They should be laid out *thinly* with their roots still attached if these have not already fallen away, but the withered foliage and stems should be pulled or broken off.

if the quantity is large or in paper or cotton bags if the lots are small. It is very important that the storing place be perfectly dry and also mice-proof. I am continually hearing of failures in keeping the bulbs until planting-time from one of these precautions having been neglected. Before then they should be sorted into three sizes. First of all the largest should be picked out and put on

FORTHCOMING EVENTS.

May 17.—Hertford Horticultural Society's Meeting.

May 19.—Paisley Florists' Society's Meeting, Eastbourne Horticultural Society's Meeting.

May 23.—Royal Horticultural Society's Chelsea Show (3 days).

SOME OF THE LESSER CAMPANULAS

BY GERTRUDE JEKYLL, V.M.H.

OF the lower-growing Campanulas the one that is of the greatest general utility is *C. carpatica*, for it is large enough to be a useful plant in the front of the flower border and is not too large for the bolder parts of the rock garden. Moreover, it is most accommodating, for it will do well in almost any soil, aspect or situation. The form *turbinata* has flowers of a deeper cup shape, while other garden varieties are more starry; but all are welcome, and when once established give no further trouble; the same plant or group will go on for years, and if a renewed or extended planting is desired it is easily raised from seed. The

colouring is everything between pure white and a fairly deep purple. It is variable as to seedlings, for the produce of a purple plant may give some whites, and that of a white one is likely to throw back to purple.

There are many species of *Campanula* native to the middle European Alps, but among them a few stand out as the most desirable in a garden. *C. muralis*, equally known as *C. Portenschlagiana*, is a brilliant little June flower; the neat tufts of foliage almost covered by the abundant bloom of a rich purple colour. Still more delightful is the dainty little *C. garganica*, flowering later in the summer. There is a perfect finish about the whole plant, with its charming bloom of light

purple shading to white, and its exquisitely neat foliage, like tiny leaves of Ivy, sharply cut at every point. Both of these little Bellflowers are seen at their best in the joints of dry walling, or in any steep places in the rock garden that come near the same conditions. Another of the favourites for wall or rock joint is *C. pusilla*, blooming in late summer. It is in white and purple colourings; a charming pale purple kind was raised by Miss Willmott and is now well known. It is pretty to see any variety of this little plant running at the foot or sides of rock garden steps.

It is well to remember that all these little Bellflowers are happiest in limy soil, a preference that is common to nearly all their kind. Those who have been fortunate enough to have had botanical rambles in Southern Italy will remember the beauty of *C. fragilis* (syn. *Barrelieri*) hanging out of narrow rifts in sheer limestone cliffs. It may not be generally known that this tender plant and the nearly related *C. isophylla*, which in England are usually grown as indoor pot ornaments, may be acclimatised in a sunny wall, where the crown of the plant, set well back between the stones, is protected from winter wet, and where no frost reaches the root. If they are provided with a good compost of lime and loam, or with the natural rich top-soil of chalky places, they thrive amazingly and make larger plants than are usually seen in their native haunts.

There are some species of *Campanula* that are not commonly grown in gardens, but that are well worthy of attention. *C. sarmatica* is a charming plant of late summer, from 1 ft. to 15 ins. high with a profusion of light purple bells and a generally downy appearance. It is good for a place in rough rockwork with a cool exposure. *C. punctata* and *C. nobilis* are plants of rather the same character, both from the Far East—China and Japan. *C. punctata* has drooping, whitish flowers tinged with purple and spotted, and elongated heart-shaped leaves pointed and boldly toothed. These Bellflowers would be lost in the mixed flower border, where plants of a showier nature are wanted; their place is somewhere between garden and wild where a group of either, seen by itself, can be thoroughly enjoyed. I have had them on a raised bank among wild grasses and Ferns, where they flourished and appeared to be just rightly placed.



A CHARMING MINIATURE—CAMPANULA PUSILLA.



THE NOT OVER-COMMON CAMPANULA PUNCTATA.

A FRAGRANT WALL SHRUB

MONGREDFEN, in his excellent book on Trees, states that the lemon-scented Verbena (*Lippia citriodora*) will live out of doors, though sometimes cut to the ground by frost. The scent of the leaves is exquisite. No garden should be without a plant, although it was at one time the fashion to discard it because it has been common. It is said to attain a height of 20 ft. in China.

The only species of this genus known in Britain, it was formerly called variously *Verbena triphylla* and *Aloysia citriodora*. It is a half hardy shrub, with panicles of small pinkish white flowers, and very fragrant leaves, which fall off in the winter. It requires a rich, but light soil, well drained, and when grown in pots it should never have water kept in the saucer. In winter, after it has shed its leaves, it should be kept nearly dry, until the buds begin to swell, when it should be watered frequently and abundantly, but the water should never be suffered to remain in a stagnant state about the roots. It is easily propagated by cuttings and only requires to be protected from severe frosts.

THE SHADING AND VENTILATING OF GREENHOUSES AND FRAMES

In spring and early summer millions of seedlings are raised, plants are repotted and transplanted and young shoots grow freely. In the open air this occurs naturally and in due course; under glass the shoots are forced, are more tender and more liable to be checked and damaged if careful attention is not bestowed upon them.

THE art of applying shade or admitting air to greenhouse and frame occupants lies in the judicious use of shading materials, and the opening of ventilators according to the prevailing state of the weather, not only each day, but every hour of the day. Where, for instance, Vine shoots are young, cold winds prevail and bursts of sunshine are fitful, one must be constantly watching the weather and altering the ventilation of the vinery.

Too much shade spoils the sturdiness of young plants and destroys, or almost destroys, the fruiting powers of such trees as Peaches, Apricots and Vines under glass. Excessive and injudicious ventilation breeds mildew spores and aphides on plants of every kind. We have only to examine closely the undergrowth in our woods to realise all this. It is not only damage that is done in the current year, but it may extend to the following years, too.

The cultivator possesses nice healthy batches of seedlings, it may be of plants intended in due course for filling the beds in the flower garden or for potting on and furnishing the greenhouse. The temperature under glass, in which they are now growing, may be 30° or 40° above the normal outside; if timely shade be not applied, 50 per cent. may be ruined by scorching in an hour's time. Temporary shading will be more beneficial than permanent at this stage, and such shade may be applied by fixing sheets of tissue paper, newspaper, or brown paper, according to requirements, just above the boxes, pots or pans. I usually fix the sheets about 1ft. above the young plants; there is then a free circulation of air around them. When the weather is dull all paper shading material is removed. This method applies, mainly, to plants on shelves or stages in the greenhouse; those in frames are dealt with by placing thin scrim or tiffany or several folds of herring netting on the glass lights, making sure that they are secured against winds.

Where a more permanent shade is required, such may be purchased from firms advertising the various kinds in *THE GARDEN*, and applied according to the instructions given with each packet. Home-made shading material is also very helpful and I know that many amateurs use lime-wash. It should never be used as, when syringed on the glass indiscriminately, the paint on the sash-bars is much damaged by the burning lime; even if carefully applied to the glass only, with the aid of a brush, the rains, in due course, wash some of the lime to the sides and splash it on the woodwork. A mixture of whitening and milk, preferably butter milk, is much more desirable, and this should be applied with the aid of a brush. At this season of the year only the centre portion of the glass between the sash-bars need be coloured, as a very effective shade results and a really liberal amount of unobstructed light reaches the plants.

Then there are roller blinds, of lath, scrim or canvas, which, when properly fixed, are very beneficial to the plants. I think it is a great pity that such rollers should be let down and pulled up daily—probably several times each day—on the painted woodwork of the house, as so much paint is rubbed off. The better plan is to have the rollers running on slightly-raised light iron rods, with a curved end at the bottom to retain the roller.

For Ferns and Palms a permanent green shade is best for the summer months. Fruit trees under glass, with the exception of Muscat Grapes while the stones are hardening in the berries, should not be shaded and then only when the sun is bright; a herring net will be sufficient.

VENTILATION.—This is a very important part of the work to be done daily by amateur or professional. Where owners must be away all day and there is no one to attend to the ventilation of greenhouse or frame in the daytime, it is better to err on the safe side and open the ventilators judiciously in the morning, even if the weather is dull, rather than to run the risk of having healthy plants scorched. Now, we will deal with the proper method of applying air to glass structures, when this can be done at the will of the cultivator. Let us, for the moment, take a vinery as typical of fruit houses. By seven o'clock "summer time" the top ventilators should be opened in, thus a gentle circulation of air is assured and excessive moisture on leaves and bunches is dispersed and scorching does not occur. On a normal day, as the sun gains power, open the ventilators another inch by nine o'clock, and again to gins. wide by eleven o'clock. This applies to the early stages of the growth of the vines; later, as midsummer approaches, more ventilation will be needed, and when the colouring of all fruits begins, front ventilation must also be given and the top ventilator left open in. all night. Where it is convenient all ventilators should be opened opposite to the direction from which the wind blows; till midsummer day this is a very important point.

The necessary air should always be so admitted as not to allow cold draughts to blow directly on to young leaves and fruit.

Cold greenhouses may be more liberally ventilated during the summer, both in the daytime and through the night.

The ventilation of a plant structure should never be put off until the internal temperature is very high. Nor if it has been done should the ventilators then be opened over-wide. Where this is done, plants are chilled, their growth is checked and mildew and aphides result. Open the lights a little first, and early, and begin to close them again gradually also, about one hour before sunset as a general rule.

GEORGE GARNER.

FLOWERING SHRUBS FOR CHALK SOIL

[IN ANSWER TO A CORRESPONDENT]

AS your correspondent "H. E.," page 167, gives no idea of his locality or the area at his disposal, shrubs other than inexpensive and hardy I do not propose to name. Rather vague, too, I think, is the soil description. If I interpret correctly, Rhododendrons and plants similarly fastidious where chalk is concerned would be a doubtful success. Yet soil overlying chalk after years of cultivation contains but a very small percentage of the latter, and may then be tolerated by several species to which anything related to lime is as poison; always providing the

beds to be occupied are raised above the ordinary level to prevent water draining through them from the immediate surroundings. The following selection of shrubs were nearly all planted on virgin soil overlying chalk on the borders of Derbyshire. The site lies low, and is protected on all sides from wind, therefore many somewhat tender sorts flourish, although the district is recognised as excessively cold. It may perhaps be of some help to your correspondent if I group them in order of flowering. Efforts to have something attractive before the advent of April led to the successful planting of *Lonicera fragrantissima* in a sheltered corner. It is a bush Honeysuckle with clusters of small white deliciously scented flowers, and averages about 6ft. in height. *Prunus Davidiana* gives the first Almond blossom. There are two varieties, red and white, but the latter is the freest, and should be so planted as to have the backing of an evergreen shrub, both for shelter and clear effect. *Garrya elliptica* occupies the centre of a most sheltered bed, and is very striking in winter when covered with drooping catkins. Its appearance, however, does not indicate that it will reach in this district a height and breadth of over 12ft., dimensions it frequently attains in the favoured parts of Scotland. Of the Witch Hazel family, *Hamamelis arborea* is sure to please when its leafless branches are freely clothed with what may be likened unto strips of golden yellow. I have known these flowers to come uninjured through 10° of frost. There are several *Viburnums*, but for the period under review *V. Tinus lucidum*, with flower trusses of snowy whiteness and growing about 6ft., is noteworthy. The *Mezereon*, *Daphne Mezereum*, is too common to need but passing mention, yet what shrubby foreground is complete without it and its perfume?

With April, in an average spring, it is not difficult even for the uninitiated to become interested in shrubs. *Magnolia stellata*, 4ft., makes a dense bush, and the profusion of waxy white flowers which open before the leaves are fully developed turns the whole, from a distant view, into a bank of snow. *M. conspicua*, 15ft. to 20ft., blooms later, but the planter must have patience with it, for it is a slow grower, but lovely when at its best. In that delightful Broom, *Cytisus praecox* we have one of our freest-flowering plants, although the month is generally well advanced before the rich primrose-coloured flowers are at their best. Of graceful habit, it does not grow above 5ft., and, unlike some members of the family, does not get leggy. Several of the older Barberries are satisfactory. *B. stenophylla*, *B. Darwinii* and *B. Thunbergii* are all early bloomers. The two first named have yellow, the latter has buff-coloured flowers and is also rich in autumn tints. Here *B. Thunbergii* occupies a position in the front of *Forsythia suspensa*, another yellow-flowered shrub of some merit. Further behind is a bold group of *Prunus pissardii*, planted more for its reddish purple autumn foliage than spring blossom. The latter purpose is left to *Prunus triloba* fl.-pl., grown in standard form and notable for its double rich pink flowers. *Pyrus Malus Scheideckeri* is also freely used as a standard, as is also the Weeping Apple, *Pyrus Malus pendula* Elise Rathke. Both are fascinating when in full blossom. *Cydonia japonica* (Japanese Quince) we used to grow on a wall, but this is an abuse of an ideal comparatively dwarf shrub. *Amelanchier canadensis* is a member of a genus closely allied to the Medlar. The popular title of Snowy Mespilus is an accurate description of it when in bloom, for the effect is nearly snow-like. The foliage, too, is pretty in autumn.

This brings us to the month of May and the flowering Cherries. To produce the desired effect

these require massing, and both bush and standard trained specimens should be used. One of the best is *Trunus Pseudo-Cerasus* James H. Veitch, with large rosy pink blossoms and reddish bronze foliage in autumn. *C. sinensis* Mount Fuji, single white, is also pretty. *Cytisus scoparius* Andreanus, with yellow and violet bronze flowers, is perhaps the handsomest of all Brooms, and it is more profuse in flowering even in a young state. In *Viburnum Carlesii*, 4ft., we find a spring-flowering shrub of much charm. The large flowers are scented, and the colour white, flushed pink. Very often the shrub is at its best before the more robust and better known Guelder Rose, *V. c. pulus sterile*. The Syringas (Lilacs) are, of course freely used, as bushes as well as standards. In some of the newer varieties there is a great improvement noticeable both in habit, colour and size of bloom truss. Especially pleasing are the varieties Alphonse Lavallée, double, blue, shaded violet; Mme. Abel Chatenay, double white; Gloire de Moulins, rose, changing to lavender blue; and Souvenir de L. Spath, the nearest approach to a red.

In June the best of the Deutzias are showy. One of the advantages of their use is due to the neatness of habit, which they retain for many years without interfering with the flowering. In addition to the white *D. gracilis* (largely used for forcing), *D. Lemoinei* (also a white), *D. Boule Rose* and *D. carminea* should be noted. For the hybrid Mock Oranges (*Philadelphus*) no praise is too high. *P. coronarius* is the common species, suitable only for the background of large areas. The following hybrids, however, are dwarf growers and suitable for beds. The blossoms are remarkably fine, and the scent of the type remains. Most of them are descendants of crossing the species named, and *P. microphyllus*, a neat bush 3ft. high with lovely sprays of Quince-scented blossoms, and are grouped under the title of the first raised, namely, *P. hybridus Lemoinei*. So free flowering is the variety *Avalanche* that the branches are often bent down with the weight of bloom. *Candelabra* is nearly as free, but dwarfier in habit; *Boule Rose*, *Gerbe de Neige* and *Mont Blanc* are also splendid. *Spiraea arguta* is seldom good here until June, but it is one of the most beautiful shrubs in cultivation when the branches are clothed with compact clusters of pure white flowers.

For July and August the number of attractive shrubs grows less. *Olearia Haastii*, with dusky white clusters and evergreen, requires a fair amount of space. *Spiraea Anthony Waterer* we employ as an edging, and very pretty indeed it is when the crimson heads of bloom are fully open. *S. arifolia*, with plume-like tufts of creamy white flowers, occupies a moist corner to great advantage. *Hypericum Hookerianum*, 5ft., with drooping waxy golden flowers 2ins. across, is too good to leave out. *H. patulum*, 2ft. is another for the edges. Others for the same period include *Ligustrum japonicum* (6ft.), white; *Cytisus nigricans* (3ft.), yellow; and *Tamarix hispida aestivalis*, with feathery sprays of carmine pink. These notes have extended much beyond my intention when I began, and no mention has been made of new kinds or doubtful doers. But to lay the foundation of a labour-saving plan and a pleasing one, especially if some of the more robust perennial plants are included, as was done here, the foregoing are, I should say, to be relied upon in almost any district. This is a good neighbourhood to test hardihood.—J. T.

CORRESPONDENCE

THE ROTATION OF CROPS.

THERE is, no doubt, a great deal of truth in the advisability of carrying out a system of rotation of crops in the garden, as advocated by "R. D." on page 193. For instance, the sowing or planting of a deep-rooting crop after a shallow-rooting one enables the plants to feed at different levels in the soil, and to draw nourishment from the upper and lower spits in different years. Rotation also helps to check the rapid multiplication of plant enemies, whether insects or fungi. All good farmers certainly practise rotation on the farm. It is not always so rigidly carried out in gardens, especially where on private estates the gardener has a good command of

to grow this crop quite satisfactorily is to make a special bed and grow the bulbs there each year. In the same way many farmers "out for" big roots grow their Mangolds on the same acreage year by year, but such crops may be considered the exceptions which "prove the rule."—ED.

THE ANNUAL STATICES.

THE enclosed photograph of annual Statice may be of interest, particularly to those of your readers who like Everlastings. The plants from which the blossom was gathered were grown in the open border, though raised under glass in a box. The border was fully exposed to the scorching suns of last year, but at planting-time stones were introduced, which these plants undoubtedly like, probably because of the moisture they retain. I have found that rather poor soil suits these annuals better than over-rich compost. The species are *Statice sinuata* (in blue and white and *S. Bonduelli*, yellow.—E. M. L.

IRIS RETICULATA IN POTS.

IT is quite likely that many who know this charming Iris out of doors have never tried to grow it in pots. It cannot be too widely known that if it can be given cool treatment from the time the bulbs are potted until the flowering stage is reached no pot plants are more satisfactory. Potted in September in dwarf flower-pots or low pans and kept as cool as possible they will bloom about the end of January. A greenhouse is not necessary. I have seen beauties which had been grown from start to finish in a cottage parlour window where there was only very occasionally a fire. *Reticulata* is such an early bloomer out of doors that frequently the flowers are injured by inclement weather, especially in the colder parts of Britain. This is avoided by pot culture, as we then get the rich purple blooms with their orange splashed falls in all their beauty and, what must always be an additional attraction, we are able all the better to enjoy their violet-like scent. Seven bulbs in a 5½ in. pan give a good display. Pans or low flower-pots give a better appearance than ordinary pots.—SALOPIAN.

THE PROPAGATION OF MINT.

I WOULD like, if I may, to supplement the excellent article by "H. G." page 180, on the propagation of Mint. I grow quite a number of species and hybrids. One of the latter between the Apple-scented Mint and Spearmint has become a favourite in the kitchen on account of its broad, crisp and juicy leaves. It is later in coming into growth in spring than Spearmint, but makes amends for this by continuing in a fresh and vigorous condition till quite late in the autumn, especially if the flower-spikes are removed. The stems then produce vigorous branches. Of course, Spearmint is the orthodox one for the kitchen. This I have propagated by division and by cuttings from various sources in my endeavour to find if there were any varieties among it, for the Mint usually or frequently on sale in the greengrocers' shops has very narrow leaves, and often withered ones on the lower part of the stems. This I proved to be due to poor cultivation or no cultivation at all in old and neglected beds. I have even obtained forced Mint from the shops and dibbled the cuttings



VASES OF ANNUAL STATICE.

the manure heap. In some gardens, however, certain borders or pieces of ground are set apart for particular crops, whether flowers or vegetables. I know of more than one garden where a certain border was set apart for the Dahlias every year, and nothing appeared lacking in their growth. A nurseryman acquaintance of mine always grew his Dahlias on the same piece of ground, and he was both a raiser and successful exhibitor. I have grown Onions for three years in succession on the same border where they had been grown for twenty years previously, and the crops were heavy. Possibly others will recall that hundreds of small gardens are cropped chiefly or solely with Potatoes year after year.—J. F.

(Despite the ravages of the Onion fly, it is certainly true that on some soils the only way

into the open ground without any protection whatever, and although put in at a foot apart each way, the bed was quite full before autumn. Besides getting vigorous plants from cuttings, it is also a means of getting rid of the Mint rust (*Puccinia Menthae*), which is liable to become serious in neglected Mint-beds.—HORTULANUS.

HISTORY OF THE MOSS ROSE.

MANY readers of THE GARDEN are lovers of the Rose, and many doubtless read "The Rose Annual." In that for 1922 Major Hurst contributes some "Notes on the History of the Moss Rose." In these, on page 40, he says that "the earliest date recorded for the Moss Rose is in a rare little book entitled 'L'Ecole du Jardinier fleuriste.'" I have this work because the frontispiece is so extremely interesting to me as a lover of the Tulip. On it is depicted an *Auricula* stage and, as far as I know, the earliest picture of a covered Tulip-bed. The edition in my possession is dated 1746, which is the identical one from which Major Hurst quotes, but I cannot find any reference in it to the Moss Rose. Either his eyes are better than mine or he is the possessor of a Grangerised copy which contains matter which mine does not. Hence I ask, was there, as Major Hurst states, a Moss Rose in 1696?—J. J.

SOME BEAUTIFUL FLOWERING PLANTS.

I HAD the pleasure of seeing the fine form of *Clematis Armandi* in flower at La Mortola in March which was mentioned in THE GARDEN last year. There was an illustration also given at the same time, but not of the La Mortola plant, and it was stated that there was no botanical difference between it and the plant figured. For garden purposes the difference is *extreme*. The plant figured resembled the form I flowered and threw away as worthless, and much inferior to the New Zealand *Clematis indivisa*, whereas the La Mortola plant is a much bigger and stronger-growing thing with long, narrow trifoliate leaves of great thickness of texture on red-brown shoots of extraordinary vigour and length, while the big bouquets of creamy white, strongly scented flowers were double the size of the variety given in the illustration, so I hope another year THE GARDEN may give a figure of this fine climber, though I think its vigour is such that it is more fit for outdoor culture than under glass. I have been much pleased with the early flowering Lilac Lamartine.

It is so elegant, so early and so vigorous and flowering that it has quite won my favour. It has the great merit of lasting well when cut and in water. It is also very fragrant and true lilac in colour. Looking over bulb catalogues last autumn I came across the name *Tulipa persica* and sent for bulbs as I did not feel to know it. Perhaps other folk may be as ignorant as I, so I will say for their benefit what a pretty little starry flower it is. Growing in bouquets of three or four flowers like *Tulipa saxatilis*, it has flowered in the grass in time to contrast with the latest blooms of the wild *Anemones* of the starry or *hortensis* type, and it seems so thoroughly at home with them I quite expect it will establish itself as *T. saxatilis* does in this climate, and would be equally delightful in rock gardens. The fine red *Glaudiolus* sent out by Van Tubergen as a very early-flowering and upright variety has also been much admired this spring, as the bulbs I got two years ago are earlier the second year than the first. There are so many beautiful bulbs and flowers in beauty here at this season that one can hardly say it is indispensable, but it is nevertheless a fine addition to spring flowers, and is good for table decoration just before the

Roses arrive in quantity. How wonderful these are this spring on this coast after their long enforced rest from heat and drought! I regret to say, however, that the striking climbing Rose Mermaid refuses to bloom with its close allies *Anemone* and *Chinensis*, which is most disappointing, as its clear lemon yellow blooms would have contrasted so well with the rose and the pure white of the two older varieties now in the height of their beauty. The flower-buds of Mermaid are only just beginning to show! I must not forget to mention the great beauty of the hybrid Daisy Miss de Witte, which is a cross between *Agathaea coelestis* and *Felicia petiolata*. Partaking happily of the climbing power of *Felicia petiolata* and the pretty grey blue of the *Agathaea*, it can be used not only to make cushions of flower on rockwork, but can be trained up a post or a tree trunk, and the astonishment of new-comers to this coast when they see a climbing Daisy in full flower at a height of 7ft. or 8ft. is quite an amusement to those who have grown it. [Here would seem to be a welcome addition to greenhouse climbers.—Ed.] That most beautiful evergreen shrub *Sophora secundiflora* is also now at the height of its beauty, and well deserves its name of the evergreen *Wistaria*. It is a great pity that so lovely a shrub is so slow in growth when young and demands a hot, dry summer, but where it succeeds it must be classed among the most beautiful of evergreen shrubs. This coast has not really suffered from the comparative cold of the month of April, but the drought is serious, as there seems little chance of abundant rain this spring, and the outlook is not pleasant to those who garden.—E. H. WOODALL, *Nice*.

AUBRIETIAS FROM SEED.

IN the leading article "Colour in the Rock Garden" (April 22, page 185) mention is made that "to select the best varieties of *Aubrieta deltoidea* is not easy." For some few years I have sown a packet of the best quality of hybrid *Aubrieta* procurable. So far the results have been so perfectly satisfactory that a further sowing will be made about the middle of May. I simply scatter the seed upon prepared ground free from manure just as one does any annual. In about three weeks, if the seed is fresh, the seedlings will make their appearance, and in a very short time will be ready for transplanting. This should be done the moment the tiny plants are large enough to handle, and if possible they are best transferred to their permanent quarters. Under no circumstances should the seedlings become crowded, the object being to promote rapid and vigorous growth. The plants should attain full flowering size in twelve months' time, and in a couple of years form cascades of bloom. The mixed colours I find are very varied and beautiful, ranging from the palest blue to deep purple, rose, carmine to crimson.

From a single packet of seed many different habits of growth may be expected. Some plants will be suitable for covering large spaces, others of a close-growing habit that takes the form of the rockwork. I have one plant of the latter habit that is the first to flower and the last to succumb. Another important point in the raising of *Aubrietias* from seed is the great vigour of the plants, for each have a fresh start in life, and I think that rock plants are more vigorous from seed than when raised from cuttings, etc. We have many other plants raised from seed just by scattering: Hybrid *Columbines*, Forget-me-not, Aster (alpine) *Contranthus*, *Cheiranthus*, *Dianthus*, *Geum*, *Helianthemum*, hybrid *Heuchera* and others. To the amateur gardener tied for time and not in want of large quantities of plants I say, try the raising of these charming plants

from seed. It is inexpensive and effectual. From fresh seed the period of germination is for many kinds only twenty-eight days or so. Caution! do not try any of the Gentians by this method!—J. PARKINSON, *Warrington*.

TWO SPECIES OF LACHENALIA.

MANY years ago, when I first "took up" *Lachenalias*, Sir Frederick Moore made the remark that the different varieties seem to have their years. He doubtless intended to include species in his generalisation, but whether he had them in mind or not, experience tells me that not only have Siam, Thibet and Mandalay—three splendid yellow hybrids of my own raising—their good years, but that with species it is the same. Anyhow my *pallidas* and *glauca*s have surpassed themselves this spring, and if the heights given in Nicholson's "Dictionary" are correct, have become veritable giants. How very few seem to grow any species, and yet in the two I have mentioned we have two of the sweetest flowers that minister to our sense of smell. They remind me so forcibly of the past—of a small conservatory at my old home wherein pots of the yellow *Cytisus* had a prominent place.

These have given me a sort of standard of sweetness, and somehow or other I frequently find myself judging in a rough way the scent of other flowers by them. *Lachenalia pallida*, to me, smells very much like the old market *Cytisus*, and *glauca* is not far off. *Glauca* this year is 14ins. high and *pallida* about 6ins. Their flowers are arranged in spikes in the same way as in the better-known hybrids (e.g., *Nelsonii*), but are either sessile or nearly so. They make no pretensions to great beauty, and just as the milkmaid's face was her fortune ("My face is my fortune, sir, she said"), so with them "Their scent is fortune," for the dull, yellow-looking flowers of *glauca* and the small pale purple flowers of *pallida* are but poor Cinderellas compared with the more conspicuous ones of their hybrid rivals. I fear neither the one nor the other is easy to procure. There has been no demand for them, so but few dealers grow them. Those who can appreciate quiet beauty and who delight in sweet smells will, however, like to grow them. They can be grown to perfection in a cool, airy house.—J. J.

EDITOR'S TABLE

SOME BEAUTIFUL NARCISSI.

THE Editor has received from Messrs. J. R. Pearson and Sons of Lowdham a box of very beautiful Daffodils cut from the open ground, including a blossom of the huge golden trumpet *Le Printemps*, which Messrs. Pearson state had been expanded three weeks. Even after the journey this flower was still in fairly good condition, so that its lasting properties are beyond question. All the sorts sent were of exceptional beauty, but two which especially appealed to the Editor were Lowdham Beauty, a magnificent and substantial white *Leedsii* which, except for the rather foreshortened but widely expanded cup might be taken for a white trumpet variety, and Nora Pearson, a beautiful bicolor Daffodil with a substantial but incurving perianth. Other beautiful sorts were the Giant *Leedsii* Empire; Marshlight, a brilliantly coloured *Barrii* with starry perianth and scarlet cup; the excellent *Incomparabilis* Pedestal, with flat, creamy perianth and long, widely expanded golden cup. *Scarletta*,

a medium-sized Barri of starry appearance, its perianth cream and the compact cup a brilliant deep orange; Sanctity and Vega, both white trumpets of moderate size; Waterwitch, a very

coy self-coloured paper-white Leedsii; and Florence Pearson, a substantial trumpet Daffodil with soft citron yellow trumpet and paper-white perianth.

Spray with Abol Insecticide or Quassia, so that this pest may be kept in check.

Roses.—Look over the Rose beds and free the plants from any Briar suckers that may be showing. Keep the hoe going so that the surface soil may be kept open and clear of weeds.

East Lothian Stocks enjoy a lengthy season of growth so, provided they were sown early, the plants should now be of good size and sufficiently hardened off to allow of their being planted out. This plant thrives best in a rich, retentive soil.

Gladioli.—Named varieties which have been started in pots should now be planted out. If planting in the mixed border and the natural soil is clayey or impoverished, a good spadeful should be taken out and some specially prepared material given to each clump.

Hollyhocks.—Where these attractive plants are treated as biennials they should now be transferred from the nursery border to their flowering quarters. To obtain the finest results Hollyhocks should be given generous treatment. Deep digging and liberal manuring is essential, so that vigorous, disease-resisting plants may be ensured.

JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Runner Beans.—Whether a small early sowing was risked or not as advised in calendar for mid-April, a sowing should be made now without delay. It is a good practice to make a shallow trench for growing this crop, varying its width to accommodate either a single or double row of plants, whichever is preferred. A rich soil must be provided for this vegetable, and the plants, when finally established, be allowed at least 1ft. of space from each other. Plants growing in boxes or pots must be carefully hardened off before they are set out.

French Beans.—Make sure of a good succession by making another sowing, still choosing for preference a warm, protected position. As with the Runner Bean, they may also be grown in shallow trenches, in which position much cold wind is warded off and protection is more easily afforded if necessary.

Broad Beans.—Should the demand necessitate a further sowing, it is essential that the site chosen be a cool one, and the soil fairly strong as well as rich.

Early Celery.—As soon as the earliest raised plants are large enough they may be placed in their permanent positions. Whether best grown in single, double, or even treble rows is purely a matter of opinion and convenience. The main point is to make sure that the ground has been well prepared and that the plants are well watered in and further copious waterings provided during dry weather.

Later Celery.—Plants should be pricked out as required and kept at all times uniformly moist. A further pinch of seed to provide late plants for use next April should be sown now in a few inches of light soil in a cold frame.

Maize.—Where the cobs of this vegetable are appreciated for autumn use sow the seeds now either singly in small pots under glass to plant out later or directly in their fruiting quarters. The lines require to be about 3ft. apart and the plants 14ins. to 18ins. from each other in the rows. A rich soil must be provided to enable the cobs to develop to their fullest capacity. A row of this vegetable behind an edging of Parsley gives a border a much neater finish than many vegetables.

The Flower Garden.

Water Lilies.—As a general rule, varying according to the season, the present time is as good as any for the planting, or it may be replanting after division of the roots of these pond and lake beauties. There is an article on this subject in this issue, page 22.

Grass Seed recently sown and now germinated should receive several good rollings, which will prove of immense advantage to the young plants. A free use of the roller is also good for those parts of the grounds allotted to tennis, croquet, etc.

Seeds of Sweet Williams, Wallflowers, Canterbury Bells and other biennials generally associated with spring and early summer display should be sown now. It will prove of benefit probably to sow somewhat thinly, so that in the event of a rather long stay in their seed quarters owing to pressure of other work, the young plants will not become too weakly.

Fruits Under Glass.

Old Vines.—The key to success in the management of these is to be as consistently natural in the method of culture as possible. It is a mistake to have any hard and fast rules laid down in respect to temperatures and stopping similar to those often adopted with Vines in full vigour. Fire heat should only be used in moderation, and the plants should be allowed to swell up their buds practically unaided by artificial heat. If the two greatest enemies to successful Vine culture had to be named, they would unquestionably be root dryness and overcropping, and it pays to be doubly careful to try to avoid these errors of management in dealing with old Vines. While disbudding and regulating of the shoots are equally as necessary as with younger Vines, it will be found of benefit if a somewhat greater freedom of leafage be allowed, thus

tending to keep root action in a healthy way, without which no one can grow good Grapes. This ample covering with leafage is particularly applicable to Vines carrying black Grapes, and while it is not advisable to allow shoots carrying bunches to grow too freely, much may be accomplished towards providing a good cover by encouraging the barren shoots to furnish such.

H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Salads.—To ensure fresh supplies of Mustard and Cress weekly sowings should now be made. A partly shaded portion of the garden suits this delectable salad best as too much exposure to the sun causes toughness in the leaf. See that regular sowings of Radishes are also made, both of the Turnip-rooted and long-rooted types. Lettuce should also be sown in quantity, and early lots thinned out to 8ins. apart. Quantities may also be transplanted to frames that are now cleared of bedding plants. Sutton's Favourite and Webb's Wonderful are splendid sorts for general use. London White and Kingsholm are two of the most useful Cos varieties.

Cauliflowers.—Plant out for succession those that have been raised in frames for this purpose, allowing 2ft. between the rows for the stronger-growing sorts.

Kohl Rabi.—Although this Turnip-rooted Cabbage is not much grown in Northern gardens, yet in certain districts it finds favour, more especially where difficulty is found in growing Turnips, as the roots of Kohl Rabi prove a useful substitute. Sow now and transplant in July in a similar manner to Cabbage.

Dwarf Beans.—Risk a few lines of Canadian Wonder or Sutton's Evergreen on a warm and sunny border for a first crop in the open. The principal sowing should not be made until the end of the month or the first week in June. Sow in rows 18ins. apart and thin freely to 8ins. in the row. Overcrowding should be guarded against as this hinders the full development of the plant, with resultant loss of crop.

Peas.—Attend to the staking of early Peas and make further sowings of Maincrop Marrowfat.

Cucumbers will now be making rapid growth and should receive frequent attention. Stop the main growths and thin out unnecessary laterals, thus allowing more sun and air about the plants. Top-dress where required and feed liberally, both with liquid and artificial manure, plants that are bearing heavy crops.

Fruit Under Glass.

Strawberries.—The latest batch of Strawberries for forcing may now be transferred from the cold frame to the forcing house. Syringe the plants freely morning and afternoon so that red spider may be kept in check. Do not allow the plants to become dry at the roots and assist with suitable stimulants batches that are swelling their fruits.

Peaches.—In the second Peach house the fruit will now be stoning, so it is essential that too high a temperature should not be kept up, either by day or night, as the fruits are particularly sensitive at this time. Tie in the necessary growths for keeping the trees furnished. Continue to disbud in the late house, and thin judiciously before the fruits become too large.

The Flower Garden.

Herbaceous Borders.—Many plants in the hardy border will now require staking and tying, so should be attended to before the growths fall over. Tie the plants in as natural a manner as possible.

Border Carnations.—Searify the soil between the plants and dust the surface with soot or lime, should slugs prove troublesome.

Border Chrysanthemums.—These should now be hardened off preparatory to planting out. Lift the sashes off entirely when the weather is fine and keep a watchful eye on young plants that may be affected by the leaf-mining maggot.

CONSERVATORY AND GREENHOUSE.

Eustoma Russellianum.—This beautiful plant is easily raised from seed, which may be sown at this time, but its subsequent cultivation is by no means easy; in fact, there are few plants that so severely test the skill of the expert cultivator, but when successfully grown and flowered it is well worth all the trouble one can take with it. In common with many plants belonging to the Natural Order Gentianeae there seems some particular difficulty in the cultivation of this plant; this probably due to lack of other plant association. The fine seeds should be sown on the surface and just covered with a dusting of sand. The compost should have a little peat added to it. Stand the seed pots in a cool house and cover with a piece of glass until they germinate. When fit to handle prick off into pans of light soil, and, as large enough, pot in thumbs, watering carefully at all times. The chief aim the first season should be to secure a nice healthy rosette of leaves before winter. Next season pot on as they require it until they are in their flowering pots, which may be 5ins. in size; over-potting should be avoided at all times. Cool-house treatment suits them during all stages of their cultivation; in fact, during their second year they may be grown in cold frames.

Chironia linoides, at one time a popular plant in gardens, is now seldom seen. It is an excellent and beautiful plant for the cool greenhouse, especially so as it flowers during August and September, always a difficult time in the conservatory and greenhouse. The plant is seen at its best during its second year, and plants propagated last year should now be ready for their flowering pots, which should be 5ins. or 6ins. in size. This plant does best in a light, rich compost with the addition of a little good fibrous peat, and by frequent pinching it makes neat, bushy specimens. Cuttings root readily in a close case in a cool house and may be inserted now for next year's stock. Other good species are *C. floribunda* and *C. baccifera*, the latter species being very ornamental when in fruit, the small red berry-like fruits remaining on the plants for a long time. The flowers of all the species mentioned are of a pleasing shade of reddish pink.

Crassula falcata is another useful plant for flowering during August and September, and looks pretty when grouped with well-grown plants of the variegated *Abutilon Savitzi*. The successful cultivation of the *Crassula* presents few difficulties, but it is essential that it have full exposure to sun and light at all times. Other species of *Crassula* that have for many years been favourite garden plants are *C. coccinea*, with sweet-scented, scarlet blooms; this flowers freely in small pots, but can be grown on into large specimens, and at one time was commonly grown as such. *C. jasminea* is a small, neat-growing white-flowering species, at one time a favourite market plant in the London area; hybrids between this species and *C. coccinea* are still grown in quantity for the London market. All the above flower during the summer months, while *C. lactea*, a white-flowered species, flowers during the winter. They all enjoy free drainage, and old mortar rubble and broken bricks may with advantage be added to the potting compost. They all root readily, if kept on the dry side, and fully exposed to light on a shelf in the greenhouse, or even in a cold frame.

Moschosma riparium.—This plant, with its elegant feathery sprays of small white flowers, is very beautiful for winter flowering, especially when grown in the country. In the neighbourhood of London it unfortunately too often gets spoiled by fogs. Cuttings should be inserted towards the end of the month, or even the beginning of June, as it is a quick-growing plant and roots readily in a close case with slight bottom heat. It grows freely in ordinary good potting compost, and only requires an ordinary greenhouse during the growing season.

Coleus thyrsoideus is a beautiful winter-flowering species, with lovely blue flowers, and has the added merit of remaining in flower for a long time. It can be raised from seed, which it produces freely if a few old plants are kept for this purpose, or it may be propagated by cuttings about the same time as advised for the *Moschosma*. It is not, however, by any means such an easy plant to cultivate successfully, for although a strong-growing plant, it requires care in watering at all times. If propagated towards the end of summer, and the small plants are grown on next year, fine large specimens may be obtained during the autumn. The ends of strong shoots may be rooted singly in 3in. pots if placed in a close case; flowered in the same sized pots they are very charming for indoor decoration.

J. COULTS,

Royal Botanic Gardens, Kew.

OBITUARY

S. T. WRIGHT, V.M.H.

We deeply regret to record the death of Mr. S. T. Wright, the popular superintendent of the Royal Horticultural Society's Gardens at Wisley. Mr. Wright succeeded Mr. A. F. Barron as superintendent of the R.H.S. Gardens at Chiswick in 1895, coming from Glewston Court Gardens, Ross-on-Wye, where he had grown hardy fruit and exhibited with great success at most of the large horticultural shows throughout the country. In 1904 the Society moved its gardens from Chiswick to Wisley, and Mr. Wright had charge of the moving arrangements. Here he remained as superintendent until his death, acting also as secretary of the Fruit Committee, and superintending the arrangements of the Temple, Chelsea and Holland House shows.

Endowed with a cheery smile and genial temperament, he will be greatly missed, not only by his colleagues at Wisley and Vincent Square, but by the exhibitors and Fellows of the Society with whom he came in contact. Mr. Wright, who was sixty-three years of age, leaves a widow and several children. For some weeks he had been ill, and at the time of his death he was staying at Matlock, whither he had gone in the hopes of recuperating. In 1920 Mr. Wright had bestowed upon him the Victoria Medal of Honour in Horticulture (V.M.H.). He was a member of the Hortus Lodge of Freemasons. The interment took place on Tuesday, the 3rd inst., at Ashbourne, Derbyshire. There was a memorial service at Wisley on the same day.

Forthcoming Trial of *Salpiglossis*.—The Royal Horticultural Society will carry out a trial of *Salpiglossis* for flowering in spring, 1923, under glass, at their gardens at Wisley. Those desiring to send varieties for trial should post them to the Director (from whom the necessary entry forms can be obtained), R.H.S. Gardens, Wisley, Ripley, Surrey, so as to reach him by May 31, 1922.

A New Flower Show for Lancashire.—It is gratifying to note that the Darwin and District Agricultural Association, which was founded in 1890, has decided to add a Horticultural Section to their Annual Show this year. The show is to be held on Saturday, June 3, and entries close on Wednesday, May 24. Copies of the schedule may be obtained from the Secretary, Mr. R. Leach, 29, Railway Road, Darwin, Lancs.

The Rhododendron Show.—It was erroneously reported in our last issue that an exhibit was staged at the above Show by Mr. Leopold de Rothschild. This should have read Mr. Lionel de Rothschild. Mr. Lionel de Rothschild also received an award of merit for the beautiful new Rhododendron *Aurora*.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

ANEMONE FULGENS. (Pest-led).—Our correspondent need not be surprised to find a mixture of *Anemones* among what he has procured under the name of *A. fulgens*. The latter is a form of a very variable species placed under the oldest name of *A. hortensis* described by Linnaeus. At least five of the forms have been described by different authors as species. *A. fulgens* has fairly broad, brilliant scarlet or vermilion sepals, with black stamens in the centre. A somewhat similar form is *A. Regina*, with beautiful red sepals, rounded at the ends, but with a yellow zone round the black centre. *A. pavonia* has very numerous, sharply pointed sepals, with a small black centre and is sometimes named *A. fulgens flore pleno*. It has the colour of *A. fulgens*, but the sepals are too narrow and pointed for the true *A. fulgens*. The form with broad, rounded sepals like a Poppy would be the Poppy *Anemone* (*A. coronaria*) or a hybrid of it, for it has been proved that the two hybridise freely. All these forms grow promiscuously together in woods and meadows among the grass and are liable to be mixed when dug up. They should by rights be cultivated and separated before being sold. The red *Anemones* of the Riviera would be the same as the above, for they extend all round the shores of the Mediterranean, from France to Italy, Greece and Asia Minor.

TREES AND SHRUBS.

WISTARIA ATTACKED. (T. N., Bucks.).—The *Wistaria* has undoubtedly been attacked by birds, possibly bill-creepers. This and other plants can be protected by spraying with either paraffin emulsion or quassia and soft soap on a dry day in mid-winter.

PRUNING OF HOLLY HEDGE. (L. G. H.).—The month of May, when new growths are pushing freely, is the best time to cut back and prune a holly hedge. All the cuts or wounds larger than the little finger should be dressed with Stockholm or coal tar, using a small paint brush for the purpose. If the cuts made with the saw are rough, make the surface smooth with a pruning knife before applying the tar. After the hard pruning of a hedge it is generally considered desirable to apply a mulch of old decayed manure.

MOVING A LARGE NEW ZEALAND FLAX. (L. G. H.).—The moving and division of the large plant of *Phormium tenax* may be done now. Not being acquainted with the exact form of growth it is not easy to say into how many

pieces the clump may be divided. It should, however, be possible to divide such a large plant into four pieces. It may be easier, as our correspondent intends to divide it, to lift the plant in sections. Use a digging fork to separate the portions, not a spade as this would cut the roots. There is no reason why any portion should die, as many of the roots will pull out from under the wall with the growths. Water liberally after transplanting and particularly if the weather is at all dry this summer.

THE GREENHOUSE.

TOMATOES ATTACKED. (W. A. P., Fife).—The Tomatoes are attacked by the fungus *Phytophthora cryptogea*. This lives in the soil and flourishes especially when the soil is over-wet and the weather dull and close. Sterilisation of the soil is the best preventive. The tops of the diseased plants may be rooted as cuttings and grown on if there is any shortage of plants.

CYCLAMEN AND CELANDINE. (Kent Bee).—The corms of *Cyclamen* may be grown and flowered successfully for several years. This depends largely on the careful treatment of the plants after flowering. We have seen corms ten, twelve and even fifteen years old carry fifty to one hundred flowers. With age both flowers and leaves are not so large. It is usually a question of quantity at the expense of quality. The eradication of the *Celandine* from beds and borders permanently planted with bulbs is well nigh impossible. The only thing that can be done, short of lifting the bulbs and following the ground, is persistently to dig it out with a small handfork and to use a narrow hoe frequently between the growths of the bulbs so that the *Celandine* has no chance to produce leaves.

MISCELLANEOUS.

CURRENT BUSHES ATTACKED. (W. B., Hauts).—Aphis has caused the blistering of the leaves and spraying with paraffin emulsion will be wise, taking care that the spray reaches the aphides in the blister.

DUCKS AND WATER LILIES. (R. H. L., Durham).—We have not kept the domestic duck with Water Lilies, but have had wild duck, which bred on a lake with a good collection of *Nymphaeas*, and no harm has accrued, so we should have no fears of ordinary ducks. The great enemy of Water Lilies is the water rat, which will often eat the root-stocks in early spring.

FLAGEOLETS. (W. S. G., Braintree).—The Haricot Bean is a variety of *Phaseolus vulgaris*. The flageolet of the French is likewise a form of the same species. The following are the names of several of the flageolets recommended by Vilmorin-Andrieux et Cie., 4, Quai de la Mégisserie, Paris: Flageolet blanc, with long pods, described as of vigorous growth and production; 1. Chevrier; 1. Roi des verts; 1. rouge; 1. très bûtif d'Étampes, very productive; 1. blanc à longue cosse, described as the most vigorous and productive of the flageolets. Practically any French Bean gathered at the correct time, that is when the seeds are formed, but before they start to ripen, are satisfactory as flageolets.

NAMES OF PLANTS.—M. A., Taunton.—1 and 7, *Erica arborea*; 2, *E. lusitanica*; 3, *E. mediterranea alba*; 4, *E. mediterranea*; 5 and 6, Both forms of *E. Veitchii*; 8, *Primula marginata*; 9, *Ornithogalum nutans*.—"Rex."—1, *Viburnum* sp.; 2, *Lonicera* sp. We should like better specimens and more information as to the origin of these two plants.—G. L. Alwick.—*Piptanthus nepalensis*.

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INTRODUCTORY.

THE cultivation of plants, trees and shrubs, keeping them in health and vigorous growth, the production of fine, well developed specimens, constitutes the *practice* of gardening. The use of them

in associating them with each other in such a way that each assists the other in forming a pleasing picture, is garden *art*. The production of the purest pigments, or the finest canvas is manufacture; the application of one to the other is art. The production of the finest specimen of plant life is merely its manufacture. It is just a process depending upon certain scientific knowledge, which, if properly applied will inevitably produce the required results. We have none too much of this application of science to cultivation in gardening. There is still too much “rule of thumb” in both the nursery and private establishment. Nevertheless, science in the garden is much more prevalent than art. The reason for this is that scientific knowledge can be acquired, and being applied, leads to the discovery of new truths.

Art is much more a matter of individuality. There may be laws and rules of composition both of colour and form, but their application varies with every circumstance. The path of science is a direct one, clearly defined and its laws are positive

and absolute. No such beaten track exists in the domain of artistic endeavour, in the garden or anywhere else for that matter. “If designing *could* be taught, all the world would learn; as all the world reads—or calculates,” said Ruskin in discussing “Modern Manufacture and Design,” and it can be applied to gardening with

equal force. Thus applied it merely points the moral that the best cultivator is often the worst hand at producing beautiful effects with his material.

And yet the whole aim and end of gardening should be to create such pictures that give a sense of satisfaction and pleasure, even to those who are

not blessed with the sense of knowing *why* they are beautiful, but simply feel that they are. The object of these notes is to indicate broadly how and where certain garden materials may be used to the best advantage, in a sense, pictorially. The details must be left to the individual and this is where the instinctive capacity for creative art comes into play.

It might be assumed from the foregoing that there is nothing akin between growing plants and using them successfully. The inference wrong. The truth is that though the paths to success are different, they are parallel, or indeed, often converge, and travel together. Both are absolutely dependent for their successes on the adherence to nature. Of what avail is it to make your garden picture of materials that will not survive the conditions in which they are placed? What is the use of achieving noble growth in a position in which it can never be appreciated owing to the unsuitability of the surroundings? The only real success in cultivation is reached by the



A FINE PLANT OF RHODODENDRON FALCONERI

discovery of, and adherence to Nature's laws. That, in garden art is only reached by the selection, possibly idealisation, but certainly reproduction of Nature's own effects.

NATURE'S TEACHING.

In applying these principles to Rhododendrons and Azaleas, the first consideration must always be the soil in which Nature grows them. There is an erroneous impression abroad that this is universally peaty. And yet one finds *R. ponticum*, the stock on which hundreds of thousands of the hybrid varieties are grafted, growing under all sorts of conditions and more often than not far removed from peat.

Nevertheless it must be conceded that the whole order Ericaceæ does appear to succeed in peaty soils in preference to others, but the very reason for this indicates why and how it can be grown with equal success in others. This order has almost invariably very fine fibrous roots. Peat, being of a soft open nature, permits the freest possible root action, but there is nothing in its chemical constitution that makes it preferable except, perhaps, that it is lime-free. But this indication of the preference of Rhododendrons, Azaleas, etc., for peat clearly suggests that in choosing the spot for them in the garden it should be one in which the soil is open, free and into which the innumerable fibrous roots will easily penetrate. Failing the existence of this the conditions must be made to suit.

The obvious places in which to find the required conditions are in or near woodland, where the leafy deposits of many years have created them. Or by stream and lake where rising floods and the subsequent recession of the water to its channel

leaves alluvial deposits of a gritty and open nature. And these are the very conditions under which very many of the species are found. An old writer, in describing the conditions most suited to Rhododendrons of certain classes, says: "Cool, loamy or sandy somewhat moist soils." The very root conditions that make them desire an open soil also make it imperative that there should be abundant moisture within reach. One other condition desirable for success with many varieties is protection from intense light and heat of the sun. Lightly shaded positions suit them best. Dense shade is fatal.

The garden Rhododendrons of to-day are nearly as involved so far as parentage is concerned as most other garden plants. This inevitably happens whenever there is a tendency to multiply varieties by hybridising. But there is one point that most of the original species have in common, and that is that they are found growing in near association with a liberal supply of moisture. This applies to such species as *catawbiense*, *ponticum*, *caucasicum*, and others, on which the foundations of the present marvellous collection of garden varieties were well and truly laid about a hundred years ago. At that time, Russell, Loddiges, Smith, Makoy and Waterer were the familiar names in the Rhododendron world.

So much for the indications of where and how they will grow, which, incomplete as it is, will serve for the present purpose, as it is merely a recounting of certain conditions that must be respected.

RHODODENDRONS.

Here is the first picture. Wooded, shadow-obscured lawns sweep down from the house to

the riverside. The slope being to the north-west the shadows have for the major portion of the day been cast towards the water side. Now it is evening and as the sun is low every ripple scintillates a sparkling gem. Just at the fringe of the lawn rises a glowing mass of Rhododendrons. Twenty-five feet high it lifts its utmost branches, and fifty or more it spreads itself right to the edge of the water, and beyond. Sheer to the water level, it drops a crimson curtain, its lower branches dipping in the lightly stirring wind to touch the surface, and cause outward circling ripples, dyed with the reflected colour of overhanging flower to a crimson wash.

Away to the right a smaller group, this time or pink with which mingles a few flowers of white, repeat the note, but in a different colour. Between the two the swards run clear to the water's edge, where, although it is yet early days, the young growths of reeds and rushes just fringe the line where land and water meet. Mingled together the pink and crimson would strike an inharmonious colour note, divided thus, each tells its own story in its own language of colour. Away beyond again are scattered masses, some small, some larger, but all alike creeping outwards to the setting sun and the water. As though jealous lest their magnificence should be wasted, they insist on casting a reflected glow around them.

Rhododendrons are never so beautiful as when they overhang broad sheets of water, be it river, lake or pond, but they are strong. So strong, indeed, that in certain lights they are inclined to give a sense of massiveness that is liable to detract from their beauty if unrelieved. Any considerable stretch of planting should therefore be broken by



SPECIMEN (UNGROUPED) RHODODENDRONS BY THE WATERSIDE.

erect growing trees, such as *Alnus*, *Taxodium distichum* or even the erect growing Willows. The whole art of using material consists in grouping contours as well as colour, and the rounded outlines of *Rhododendron* clumps cry out for the association of vertical lines. A wall of *Rhododendrons* may be striking, but it is not beautiful. Broken, scattered masses, interspersed with some such trees as above, or for a change a golden shower, in the form of *Salix vitellina aurea pendula*, will lose nothing in the way of colour effect, but gain infinitely in satisfying that sense of composition without which no picture is good.

The second picture is of a long woodland vista. Giant trees enclose the vision and direct the eye to the distant landscape. Towering Cedars rise black against the sky and many gnarled and twisted branches of Oaks cut silhouettes against the light behind, while their leafy tops form shadow mysteries around. The vista was cut through dense woodland, and here and there a single tree has been left standing, as though a forest tide had receded and left a giant seaweed stranded.

All along the fringe of woodland are gorgeous masses of carmine, crimson, pink, scarlet, purple, in ever-varying shades of colour, for it is *Rhododendron* time, and this is the place in which they love to grow. Years of falling leaves had left a deposit of humus on the ground, which when the clearing was made, became thoroughly incorporated with the loamy soil beneath. To assist root action a quantity of sandy gravel was mixed in the areas to be planted.

The groups have been so arranged that every advantage has been taken of the positions of trees, light and shade studied in the places allotted to the various colours, even the colour of the tree trunks behind has been considered in association with the placing of colour in front. Sometimes there is a little break in the continuity of the planting scheme, and the warm glow of *Azaleas* takes up the theme, but these are rarely used closely in association with *Rhododendrons*, because the strong orange, flame and yellow shades of *Azaleas* mar the deeper tones of *Rhododendrons*.

Such a place is just where *Rhododendrons* love to grow, and give of their best, because they are happy.

AZALEAS.

There is yet a third picture; again of woodland, but this time of paths winding among the trees, through gently undulating ways. Sometimes these paths pass through dense overhanging leafage, where even in these early days of the summer their shade is pleasantly cool. As a bend in the path is reached the eye is caught by a distant gleam of brighter light, and a second later a perfect riot of colour breaks on the view. Orange, crimson, scarlet, yellow, intense flame and indeed, every shade from pure white to the deepest crimson and purest gold. This is in a clearing in the woodland itself, and is filled with bold plantings of *Azaleas mollis*, *Ghent rustica*, *occidentalis*, and all the glorious hybrids that enrich the garden to-day.

The very shadows through which we pass to reach these open spaces, filled with intense colour, serve but to emphasize and intensify the gorgeousness of the effect. As the eye travels along among the brown tree trunks, blue and purple shadows and all the cool tones such conditions suggest, the distant colour, strikes a note that is something more than floral, and one thinks of the garden of the *Hesperides*, or some jewelled cave of the Arabian Nights. If the woodland were large enough there would be many such paths and many such terminations to them. How much more beautiful the plants themselves are when grown in such conditions can be imagined. How poor the formal shaped bed in a trim lawn, filled with even the best of the same shrubs appears in contrast! G. DILLISTONE.

THE ARRANGEMENT OF MAY-FLOWERING TULIPS

Changes in Taste—Modern Arrangements—Tulips by Themselves—Tulips in Combination with other Flowers.

NOT only does the present generation evince a new taste in the type of Tulip that it grows in its gardens, for corresponding to this its ideas about their arrangement in gardens are as different as they well can be. Once upon a time the Tulip-bed was the primary concern of all

In these notes we are concerned with the May-flowering varieties only. The magnificence and lordly bearing of the Cottages and Darwins have quite taken the shine out of the older "earlies," which once upon a time were so popular for bedding but which have gradually dropped out of favour. The new-comers may conveniently be considered



AT ALDENHAM HOUSE.

who fancied this flower. The position of the varieties in it was a matter of the greatest concern. The earliest plan of how the bulbs were to be planted is to be found in Samuel Gilbert's "Florist's Vade-mecum" (1682), where on page 77 he gives a detailed plan with names of how they should be set. Practically the same plan, as far as I can make out, was adopted by growers until somewhere about the middle of last century, when Groom of Walworth and other famous growers had their beds all carefully arranged so that the tallest plants were always in the centre row, and the roses, *bybloemens* and *bizarres* all carefully placed in order that they could be seen to the best advantage individually and as a whole. In Gilbert's time there were, probably, generally five rows in a bed. In Groom's day there were seven, and all the chief amateurs and traders erected Tulip houses for the protection of the blooms. There is a good picture of one in the *Gardener and Practical Florist* for 1843 on page 203, with details of its construction and dimensions. This is not the way we treat Tulips nowadays. Only a few of the old brigade, like Mr. Bentley, Mr. C. W. Needham and Sir A. D. Hall, have coverings for their flowers, but they are poor things compared with the sumptuous "houses" of the fanciers who lived in the early half of last century. Enough of these ruminations of the past. As the Cheshire proverb says, "I must love you and leave you." Practical politics are what is required. Allowed that the object of acquiring Tulips is garden decoration, what can be said to further this end?

in two ways; that is, when Tulips are used by themselves, and when they are used in combination with other plants.

(a) TULIPS BY THEMSELVES. Under this head first of all we have clumps in borders. An important point with these tall plants is the question of background. Why do Tulips in Mr. A's garden look so much better than in Mr. B's? It very likely is because they have something dark behind them which sets them off. No one grows hedges or builds walls and clothes them with verdure simply for the sake of Tulips, but all the same such things may be a mighty help. In what Bacon would have called prince-like gardens, whose dimensions are reckoned in acres, as, for example, that of Duffryn, near Cardiff, we may have different compartments all hedged round. One of these would make an ideal Tulip garden because the green surrounds are such a good foil to the coloured flowers. It is the same principle, whether it is a whole garden or a single clump. The setting should be considered. I once visited an old castle near Hythe. It had an immense courtyard surrounded on all sides with soft grey stone walls with narrow borders at their base. I thought how lovely great masses of *Pride of Haarlem* would look against them. So it need not always be a green background. The mellow red of the high walls of the large Rose garden at Balls Park would be the very thing for *Oliphant*, or *Duchess von Hohenberg*, or *Erguste*. Any grey-toned lilac or mauve might be used and, the result would be pleasing. Again, as to the size of the clumps, we must, of course, cut our

coat according to our cloth, that is to say, according to the size of the border and the depth of our pockets, but give me as large clumps as possible. I would rather have a few good-sized ones than a multitude of smaller ones. Six is my minimum number. For the maximum it is the algebraical sign "n"—ten, twelve or even more. A still further consideration about clumps is the harmonious blending of one with the other. Philip

(b) TULIPS WITH OTHER PLANTS.—This way of planting Tulips is very popular, although it is not economical, involving as it does the destruction of the carpeting plants or their removal to a nursery bed till they are wanted again. Some plants, it is true, which can be raised from seed every year may be thrown away without their loss being felt, as a fresh batch of seedlings will be coming on. Wallflowers and Forget-me-nots

like Lavender. (5) Tulip *Gesneriana major* (rich glowing crimson) with a groundwork of Arabis (white). (6) Tulip *Avis Kennicott* (rich yellow) mixed with such a Wallflower as *Blood Red* (deep red). (7) Tulip *Golden Bronze* (golden brown) with a good strain of orange Polyanthus. In this combination there is some risk in case the Polyanthus are past their best when the Tulip flowers, but it is so striking and out of the ordinary that it is worth trying. (8) Tulip *William Pitt* (deep red) with one of the variegated leaved Grasses mentioned above. (9) Tulip *Allard Pierson* (crimson maroon) rising from a bed of *Indigo Queen Forget-me-not* (deep blue). (10) Tulip *Oliphant* (silvery grey) with blue *Scilla hispanica*. (11) A late Tulip like *Inglescombe Yellow* planted alternately with a Daffodil like *Sir Watkin* (yellow). Such a bed gives two distinct shows and, if the flower-stalks of the Daffodil employed are removed after the flowers are over, there will be no eyesores when the Tulip is in bloom. (12) Beds of Roses may be thinly planted with cheap late Tulips, which can be cut off at the ground-level when their foliage begins to interfere with the new Rose shoots. If the bulbs can be taken up, so much the better.

The combinations that may be made are endless; but if they are to be a success a little thought is necessary lest we get, instead of pleasure when we see our arrangement bloom, the colour equivalent of a round peg in a square hole.

JOSEPH JACOB.



MAY-FLOWERING TULIPS ARRANGED WITH THE VIVID ORANGE CHEIRANTHUS ALLIONII.

Henry, the father of Matthew Henry the commentator, used to live within a stone's throw of my house. He built a garden wall which still stands. He kept a diary. At the end of one day he wrote "Thank God, no bad language heard to-day." Tulips are like workmen. When ill-assorted they have been known to swear, but whether it is at one another or whether it is really at their planter I hardly know. At any rate, let us try to avoid recriminations by considering before we plant or, better still, before we order the bulbs what will go together. An almost indispensable help is the R.H.S. "Report of the Tulip Nomenclature Committee, 1914-15." Every variety is pigeon-holed, and so if it is consulted it is comparatively easy to avoid pitfalls. Tulips look very well in large beds on lawns. In such positions suitable mixtures are very effective. They may vary from a simple combination of two varieties, such as the tall dark *Moralis* (Darwin) with the dwarf soft pink *Sir Harry* (Cottage) or, say, the rosy *Edmée* (Darwin) and the pale pink *Suzon* (Darwin), to a compound mixture made up of different shades of mauve and pink with just a few brighter colours to set them off. These are examples of how beds of Tulips may be treated if anything but one variety is wanted. It will be noted that in the combinations of two the varieties are of different heights. This variation tends to take away the stiff look that a strict uniformity almost invariably gives. In order to get at the heights and the times of flowering of the various Tulips the R.H.S. Tulip book which I have already referred to will be an invaluable help, as it gives for each the information required.

are cases in point. If the first named are sown in June and the last named in early August, the resulting plants should be about right for planting in October along with the Tulips in their flowering quarters. Attention to the time of sowing and to the time of taking cuttings of such things as *Aubrietias*, which should be taken about mid-July, is important, and must be studied if the best results are to be had. What are the plants most suitable for combining with Tulips? Wallflowers in variety, *Aubrietias* in variety, *Indigo Queen Myosotis*, *White Arabis*, *Polyanthuses* in variety (but only with the earliest of the May-flowerers), *Cerastium tomentosum*, early-flowering *Violas* and probably some of the *gracilis* hybrids, *Cheiranthus Allionii* (if sown in good time), *Centaurea Clementei* (grey foliage) in warm well drained gardens in the South, *Molinia cœrulea variegata* and *Arrhenatherum bulbosum variegatum* (two pretty variegated Grasses), and *Scilla hispanica* (blue, white and pink). The above list includes most of the more ordinary ones which may be used in bedding arrangements. Need I again say that it is very important to have pleasing combinations of colour—some will like harmonies and some contrasts. It is a matter almost entirely of individual taste. The following suggestions will, I hope, serve to put readers on the right track: (1) Tulip *Euterpe* (heliotrope) with pink *Scilla campanulata* (Spanish Squills) underneath. (2) Tulip *Palissa* (deep ruby red) with the orange *Cheiranthus Allionii*. I had this striking combination in my garden last year. (3) Tulip *Moralis* (violet purple) with a grey-leaved carpet plant like *Cerastium tomentosum*. (4) Tulip *Ergaste* (grey mauve) with a pale *Aubrietia*

PRESENT-DAY DAHLIAS

II.—THE DOUBLE-FLOWERED VARIETIES.

THE CACTUS TYPE.

AFTER the introduction of *Jaurezii*, the Cactus Dahlias soon developed into some unique forms of light, loose, artistic flowers with the most delicate colouring. The tendency with regard to this class was for some years to produce flowers of a large size, so large, indeed, that the weak stems could not support the heavy blooms, which were allowed to hang their heads among the foliage and, although grand when supported artificially on the exhibition table, were of little use for garden decoration. On the other hand, some raisers have been keeping steadily in view the greater value of this class with flowers of a more moderate size, produced in greater profusion on stiff stems with flowers thus carried well above the foliage. These varieties include *Burbank*, *Edith Carter*, *Empire*, *Mary Purrier*, *Mrs. C. Foster*, *Mrs. F. Paton*, *Mrs. Landale*, *Richard Box*, *Rose Queen* and *White Ensign*.

THE MINIATURE CACTUS.

This is a class exactly corresponding to the larger Cactus, only that the plants are dwarf and the flowers small and borne on stiff stems, thus rendering them valuable for garden decoration and for cutting. They include *Firefly*, *Gracie*, *Little Fred*, *Modesty*, *Molly*, *Niobe*, *Nord*, *The Bride* and *W. Marshall*.

LARGE DECORATIVE DAHLIAS.

Many intermediate forms known as Decorative have been steadily developed. Although double in form, they are much looser and lighter than the old Show Dahlia. The florets are flatter and not so evenly quilled with still a considerable number of florets closed round the centre. They are thus not so heavy and formal as the Show

sorts, and the flowers are carried well up on stiff stems. A few of the first varieties raised were Constance, Cochineal and Pieta Formosissima. These have all now been discarded for the better varieties as follows: Apricot, Delice, Papa Charmet, Pearl, Porthos, Queen Mary and Yellow King.

CAMELLIA-FLOWERED DAHLIAS.

A great trial of Dahlias was carried on at Wisley last summer jointly between the National Dahlia Society and the Royal Horticultural Society for the purpose of testing and comparing the many new varieties and of ascertaining their usefulness for garden decoration. A Conference was held in connexion with it, when some alterations were made in the classification of the types. One of the changes made was in the Decorative class. There was so much variation in size in this class that it was decided to divide it into Large Decorative and Small or Camellia-flowered Decorative. Many of the latter are so close growing and floriferous that they are exceedingly useful for

massing in large beds. Some of the best varieties are as follows: Crimson Flag, Barlow's Belder, Cheal's White and Reginald Cory.

DOUBLE SHOW AND FANCY DAHLIAS.

Readers would probably like to have a few of the best varieties named, which are as follows: Doreen, Gracchus, John Walker, Miss Ormerod, R. T. Rawlings, W. Garrett and Mrs. Rawlings.

POMPON DAHLIAS.

These are very small double Dahlias with very neat, globular flowers about 1½ ins. to 2 ins. in diameter. They are pretty either for garden decoration or for cutting. Some of the best varieties are as follows: Adelaide, Bacchus, Electra, Glow, Regulus, Nerissa, Ideal and Queen of Whites.

LARGE PÆONY-FLOWERED DAHLIAS.

This is a large class which has somewhat large and loose florets, which are usually somewhat twisted. Most of these varieties are strong,

tall growers, carrying their flowers well above the foliage, are particularly showy in the distance, and are most effective when grouped in masses in front of a dark background. They are also useful for cutting for the decoration of large halls, etc. Some of the best varieties are Aphrodite, Claudia, Gipsy Queen, Lorna, Louise and Mark.

THE MINIATURE PÆONY-FLOWERED DAHLIAS.

The description of this class is exactly the same in form of flower as the Large Pæony, only the flowers and plants are both smaller in size. Some of the best varieties are Chatenay, Baron Hayashi, Lady Betty and Mrs. S. Goldman.

CLEMATIS-FLOWLED DAHLIAS.

These represent yet another interesting break. The centre of the flowers consists of small quilled florets surrounded by wide flat petals, the total effect curiously resembling a Clematis. The best variety at present introduced is Ada Finch.

JOSEPH CHEAL.



A TYPICAL DECORATIVE, LADY DENMAN.



GLOW, A CHARACTERISTIC POMPON DAHLIA.



THE MINIATURE PÆONY VARIETY LADY BETTY.



DR. TONGUE (PÆONY).



A TYPICAL CACTUS DAHLIA.



CHEAL'S WHITE (CAMELLIA-FLOWERED).

THIS YEAR'S CHELSEA SHOW

Some suggestions and a forecast.

THE week that is coming overshadows, from some points of view, every other week in the gardening calendar. It is the week of Chelsea Show. Nor is that all. Chelsea Show is, of set purpose, arranged for a season when flowers are naturally most prodigally displayed, when rock garden and wild garden compete with shrubbery and more formal beds to make a display unrivalled in the cycle of the year.

True it is that the herbaceous border has not yet attained its greatest splendour, but even here glorious Irises and the May-flowering Tulips will be giving of their best, while the Apple orchards with their varying shades of pink and bluish transform the countryside. Some of their purely ornamental cousins will, no doubt, be seen at Chelsea.

One does meet individuals who frankly admit a preference for the relatively small fortnightly meetings at Vincent Square, which, given time, one can examine in detail, to the scenic splendours of the Royal Hospital Gardens which the three days of the Show—could one spare them!—are all too little to appreciate in detail.

Their attitude is understandable, but when all is said the exhibitor at the R.H.S. Hall is severely handicapped, if he wishes to achieve natural

Whatever special business, then, takes Mr. Smith or Mr. Brown to Chelsea, they are both sure to be found in company with one of the innumerable Mr. Robinsons comparing notes on the rock gardens. Visitors from a distance who are "doing" Chelsea for the first time this year will be well advised to see the exhibits in the tents before these become insufferably hot; after all, the outdoor exhibits will wait till they come! This may seem unnecessary, not to say trite, advice, but every year one hears perspiring visitors wishing they had "seen the tents first."

Exhibits at Chelsea may be roughly divided into two classes, those set up to show suitable arrangement of garden space and those intended only to display plants for sale. Exhibits in the first class are mainly but not entirely outdoors, and of the latter group 90 per cent. or more will be found in the tents. Since the model gardens are the main attraction, it has been thought well to supplement, as it were, in this issue the lessons they inculcate by articles on the arrangement of two typical races of spring-flowering plants, namely, Rhododendrons (including Azaleas), and May-flowering Tulips.

At the time of going to press it is still uncertain just how this season's exhibition will compare with those of previous years. The lateness of

There are mentioned below a few of the many features which will repay looking for, but the wise folk at Chelsea are they who, knowing the particular families or classes of plants which they wish to see and compare, study the official guide to the Show and inspect, first of all, the different exhibits in which they are specially interested. Afterwards they may enjoy the gorgeous banks of Orchids—supposing these not to be the flowers of special interest—and inspect the exhibition in general.

If a reliable census could be taken, it would be interesting to know how many visitors see the whole Show. To interpret "see" in a very strict sense might rule out everyone; but, to put the conundrum in another form, one wonders what percentage of those passing the turnstiles file past all the exhibits or even all the exhibits in the tents. It is astonishing how easy it is to think one "has done it all" when, as a fact, one has missed "chunks." Let us then reiterate that to be sure of not missing what one especially wanted to see one should carefully consult the official guide before beginning one's peregrinations.

It is hardly necessary to advise visitors to inspect the rock and formal gardens, but we understand that Messrs. Wallace of Tunbridge Wells are this year attempting something new. Instead of the rocky moorland scene so typical of rock gardens at Chelsea, they will depict a stream running through woodland and in its passage cutting its way through rocky strata. Adjoining this the firm will show a simple formal garden, and the whole arrangement should be particularly interesting and helpful to many garden makers in hilly wooded Surrey, for instance.

Something novel in formal gardens, at any rate as shown here, is promised by Mr. Klinkert of Richmond. In this garden there is to be no masonry of any description. Its place will be taken by the topiary, for which Mr. Klinkert's nurseries are famous.

For those who like blue gardens, and there are many who do, Messrs. Gaze's formal garden in tones of blue and grey will make appeal. The same firm will also have a rock and water garden on an ambitious scale, as well as a model hard tennis court.

Messrs. Cheal are again laying out a formal garden which will doubtless maintain their reputation. We understand that it illustrates the effective use of dry walling, while included in the scheme are Lily pools, shrubberies and herbaceous borders, with a pergola and summerhouse, and an avenue of topiary. An ambitious programme!

Of the exhibits within the tents no section is of greater general interest than that comprising the hardy fruit exhibits. Messrs. Rivers of Sawbridgeworth are hopeful of staging an exhibit of Early Rivers Plums, Duke of York Peaches and Cardinal Nectarines in pots, but the late season is rendering it difficult to get the needful finish in time. Messrs. Bunyard, on the other hand, always famous for their excellent fruit storing, are relying on an exhibit of late-ripening culinary and dessert Apples which should be of great interest to the private grower. Messrs. Laxtons, again, are staging Strawberries, including The Duke (which Messrs. Laxtons consider the finest Strawberry ever raised), Sir Douglas Haig, Marshal Foch and Lord Beatty.

Turning now to the floral exhibits, there should be an excellent display of the Queen of Flowers. Messrs. Frank Cant and Co. will stage some of their best novelties, including Mrs. Alfred West, a new Hybrid Tea Rose which they are distributing



THE NEW SALMON PINK PERPETUAL CARNATION EILEEN LOW.

effects, by want of time on the one hand and want of space on the other. The overwhelming attraction at Chelsea is undoubtedly afforded by the open-air exhibits of rock and formal gardens. Imperfect though these admittedly are—it is impossible, for instance, in the time at disposal to conjure adequate backgrounds—they convey to the eye of the layman ideas of form and of construction which he could hardly appreciate in any other way.

the spring has undoubtedly caused great anxiety to many exhibitors, but the recent change in the weather will, no doubt, do much to assist growers. As far as one can see and hear the annuals and Roses will be, if possible, better than usual, but it is probably too much to hope that the Irises, for example, will be as good as they were last year. Fruit, too, never overplentiful at this Show, will probably be shorter even than usual.

in June. This is exceptionally beautiful in the bud state when the shrimp pink blossoms are edged and suffused with coppery apricot and orange. Several other novelties not yet in commerce will also repay inspection, as well as the two Wichuraiana varieties—Snowflake and Yvonne—which in 1921 and 1920 obtained gold medals

Many visitors go to Chelsea solely to see the Irises. Despite the backward season, there will probably be numbers there as usual. Messrs. Wallace, at any rate, have made certain of theirs by cultivating them in pots. Those to be shown include some of the most recent Newlands seedlings, including Ann Page, Miranda and Regan, as

Herbertii—as they are often called. Mr. Herbert, like Mr. Douglas, never stages spectacular displays at these shows, but his flowers have a form, colouring and finish which make them fit for any floral company. They might be used to decorate the dinner-table of the most fastidious, which is more than can be said of most perfectly hardy flowers. Visitors should not miss this exhibit.

The Hardy Plant exhibits will no doubt be extensive, but the uncertainty of weather conditions makes a forecast impossible. Messrs. Blackmore and Langdon, however, expect to stage their super-excellent Delphiniums, including such varieties as W. T. Ware, Mrs. Townley Parker, Mrs. A. J. Watson and Mrs. Shirley. Numerous firms, including Messrs. Carter Page and Co. and Messrs. Cheals' will be exhibiting Alpines on staging. There will be many hardy Primulas; but those interested in these flowers should not on any account miss the exhibit of uncommon ones by Mr. MacWatt.

May-flowering Tulips will be largely shown by Messrs. Barr and Sons, who, determined not to "miss" the Show, have late as well as early-planted bulbs upon which to draw. This firm will also be exhibiting herbaceous plants.

Rhododendrons and Azaleas should be quite well represented. Messrs. Wallace are exhibiting the new "Kersbergen" Mollis Azaleas, of which several have recently received awards, also some of the best of the hardy Ghent varieties. Their Rhododendrons will include Pink Pearl, the new Hugo de Vries, and the always remarkable Doncaster, with other first rate sorts.

Dahlias will, even thus early, be something of a feature. They will be exhibited by, among others, Messrs. Cheal and Messrs. Carter Page.

Of greenhouse plants, particularly cool greenhouse plants, there will, as usual, be a fine display, which will, incidentally, demonstrate the ever-increasing ascendancy of hardy and half hardy annuals for conservatory decoration at this season. Messrs. Sutton and Sons will have a large informal group in a large tent adjoining the Embankment entrance. Their annuals will include Clarkias, Schizanthus, Nemesia, Phlox Drummondii, Mignonette, Godetia, Nemophila, Lavatera, Dimorphotheca, Love-in-a Mist (Nigella), Salpiglossis, etc., while they will have masses of other plants raised from seed, including pink and blue Cineraria stellata, Gloxinias, Begonias, Calceolarias and Streptocarpuses. Messrs. Sutton's last year won the Sherwood Cup for the most meritorious exhibit and their display is sure to be in the first flight this year.

Messrs. Carters always stage greenhouse flowers well at Chelsea. Their exhibit this year will include Calceolarias, Cinerarias, Gloxinias, Streptocarpuses, Clarkias, Petunias, Schizanthus and Spanish Irises, the whole edged with a broad strip of turf grown from their well known grass seeds.

Messrs. Blackmore and Langdon will stage their magnificent double Begonias, also hanging Begonias and Gloxinias. Their double Begonias will include such grand sorts as Mrs. J. Brunton, Queen of the Belgians, Nurse Cavell, Sir J. Wilson, Peace, Grand Monarch, Mrs. W. Cuthbertson, Mrs. T. Crawford, Mrs. J. Davidson and Lord Methuen.

Although old-fashioned in one respect it is only recently that garden lovers have fully realised how useful for both garden and conservatory Australian plants can be. Many of them, such as the Acacias (Mimosas or Wattles as the Australians call them), are hardy outside in sheltered positions, while the whole family are excellent for the cold, unheated conservatory, where they last a long while in flower. Messrs. Stuart Low are exhibiting a group which will consist of Acacias, Metrosideros (Callistemon), Eriostemons, Aotus, Leptospermums, Boronias, etc.



WICHURAIANA ROSE YVONNE WITH PINK SWEET-SCENTED BLOSSOM.

from the National Rose Society. Of the older varieties special mention should be made of the beautiful single Mrs. C. E. Salmon. Of a soft salmon pink, with orange suffusion and yellow base, it is especially charming for table decoration.

Mr. Elisha Hicks hopes to make a fine display with specimen climbers, dwarf Polyanthas, including the new varieties Lady Reading, Red Ellen Poulsen, Coral Cluster and White Orleans, and standard varieties in other sections, such as Premier, Columbia, Mme. Butterfly, Climbing Lady Hillingdon, etc.

In addition to the Strawberries already mentioned, Messrs. Laxtons are again exhibiting that charming single Polyantha Laxton's Pink Delight, which they exhibited so charmingly at last year's Holland House Show.

Messrs. Paul and Son (Cheshunt), Limited, will have an exhibit chiefly remarkable for fine weeping standards, pillar Roses and climbers. Noteworthy among these will be the novelty Perpetual Lemon Pillar, but many of the newer varieties of bush Roses will be included.

Messrs. Benjamin R. Cant and Sons will have their usual display of standard varieties and novelties. Among the latter may be mentioned the cream-white Phoebe (gold medal); the golden yellow Sovereign, with beautiful coppery tints in the bud state; the large and handsome Rev. F. Page Roberts, also a gold medal Rose, with flowers of the shade of that old favourite, Maréchal Niel and Mrs. Oakley Fisher, with most of the characteristics of the "Irish" singles, but flowers of the golden orange hue of Lady Hillingdon.

Messrs. Wm. Paul and Son, the Waltham Cross firm, will stage a group of Roses—"weepers," pillars, standards and dwarfs—many sorts being of their own raising, including Paul's Scarlet Climber and Ophelia, and their novelty for 1922—Gloria.

well as a collection of the Bliss varieties, among which Dominion, Dimity, Dusky Maid, Glitter, Tom Tit and Azure are especially noteworthy. Messrs. Barr and Sons will also be among those exhibiting these wonderful flowers.

With regard to Pinks and Carnations, we are on surer ground. Messrs. Allwood are making every endeavour to eclipse all previous displays they have staged in these gardens—not an easy feat by any means. Flanking their great group of Perpetual Carnations but separated from it by walks will be Allwoodii displayed on rockwork, including the new varieties Marion, Maud, Eleanor and Hugh. They are also showing a circular bed filled with specimen plants of Allwoodii, some of them half a yard across.

Messrs. Stuart Low and Co. will, as usual, show their perpetual-flowering Carnations, including the disease-resisting White Pearl and a new seedling from their well known variety Eileen, which, a shade darker in colour than the American variety Laddie, and called Eileen Low, is expected ultimately to prove a profitable market sort as it is exceedingly prolific. Other novelties will be the glowing cerise Reginald Cory (not yet submitted for award), Mrs. R. Gerrish (apricot), Sheila Greer (said to be an improved Fire Glow), Lord Lambourne (a very intensely coloured red) and Mrs. Myles Kennedy (said to be the sweetest smelling of all Carnations).

Mr. James Douglas will exhibit his Border Carnations and Cloves, of which it may be said that year by year the Borders grow stouter of footstalk and more robust of habit, while season by season the colour range of the Cloves grows wider.

Mention has already been made of those free-flowering hybrid Pinks the Allwoodii. Readers of THE GARDEN seem often to confuse these with Mr. Herbert's Carnation-like Pinks—Dianthus

Daffodils and Saxifrages at the Royal Horticultural Society's Hall

THE entry on the Fellows' passes of the R.H.S. for May 9 and 10 led many to expect to see Saxifrages in the ascendancy, but it was to a great extent, a Daffodil Show—such are the tricks our climate plays those who attempt to forecast the seasons and their floral offerings. But it was a very beautiful Show, and while Daffodils were in the ascendancy, there was a sufficient variety of other flowers to interest all tastes.

Messrs. Barr and Sons made history by winning the coveted gold medal at three successive meetings with the same flower. Although their large exhibit of Daffodils was not quite of the super-excellent quality of a fortnight back, it was a truly wonderful exhibit. Quantity and quality were combined with great variety and interest. As in most other instances the collection was noteworthy for the excellence of the many varieties possessing vivid coronas. Of these Nysa, Cœur de Lion, Angela, Red Gauntlet, Suzette and Prince Fushimi may be named. The Poeticus sorts were also admirable, and so were such large trumpets as Olympia, G. P. Haydon and Alope.

Not far from the above Messrs. J. R. Pearson and Sons had a magnificent collection which, with memories of the splendid display they made at the Spring Bull Show, made many Daffodil lovers wish the journey from Lowdham were shorter, so that we might see such beautiful blooms more often. This exhibit was said to be solely from home-grown bulbs, and it demonstrated clearly that with Daffodils the results are fully equal to any from the Continent. Of the many sorts on view we selected Nannie Nunn, Gipsy Queen, Croesus, Lucifer and Marshlight as being particularly brilliant, while such Poeticus varieties as Thelma, Acme, Firetail and Virgil were all that could be desired.

The decorative value of Daffodils of all types in skilful hands was splendidly illustrated in Messrs. Suttons' exhibit. Besides massing such sorts as Tritoma, Red Lady, Memento, Whitewell and Horizon, they had fascinating stands of mixed sorts which showed that it is not necessary to grow large quantities of separate varieties to be able to have attractive decorations. The Donard Nursery Company, on the other side of the entrance, aimed at a collection of the best sorts, and in this they succeeded admirably.

It was such as Cossack, Firetail, Flinstone, Crimson Braid and Curlew that, by reason of the brilliancy of their coronas, demanded admiration in Mr. W. B. Cranfield's collection, though there were many others worthy of attention. In an extensive contribution by Messrs. Ryder and Son, we noted many of the Tazetta section, including some promising seedlings.

The newest in a smaller collection by Messrs. F. H. Chapman seemed to be Orgy, which is a suggestive name in view of the orange shading on the broad corona. Messrs. Bath had a fine exhibit which included Firetail, Matchless and Unique in excellent form. On the Anglesey Growers' exhibit noteworthy varieties included Vixen, Lanten, Jingle, Jovial and Jester.

Although Saxifrages were not in sufficient numbers to make a great show, the R.H.S. brought from Wisley a comprehensive collection of the different types. Besides such showy sorts as Wenlock, Best of All and Pink Beauty, which are exceedingly decorative, there were specimens of such large-leaved sorts as *S. peltata*, which is an admirable plant for the bog garden, and *S. tellimoides*, with *S. lingulata* and its relatives,

Bellardii and *lantoscana*. Among general collections of alpine ones could pick out other good Saxifrages, Messrs. Waterer Sons and Crisp included *Wallacei*, *sanguinea superba*, *Diane* and affinis.

Gazania montana, which has narrower leaves than *G. splendens*, and bears sulphur yellow flowers, was interesting in Mr. M. Pritchard's collection, where the quaint *Podophyllum Emodi majus* was also to be seen.

The Blue Gentians were finely shown by Mr. Clarence Elliott, who also had a few plants of the rare *Sisyrinchium filifolium* and the tiny yellow *Viola biflora*; while Messrs. Ladhams, Limited, specialised in their brilliant bedding Daisy, Ball of Fire.

Next to an admirable collection of Lilies by Mr. J. C. Allgrove, it was the branches of Flowering Crabs in such exhibits as those by Mr. R. C. Notcutt and Messrs. J. Cheal and Sons that attracted attention among the general shrubs, though there were also many desirable double-flowered Cherries to be seen, and Messrs. Wallace and Co. again showed a number of their gloriously beautiful *Kersbergen* Azaleas with the handsome *Rhododendron Hugo de Vries*.

The less hardy *Rhododendrons* were the subject of an interesting exhibit by Dame Alice Godman, South Lodge, Horsham. The most beautiful was an unnamed seedling of vivid pink colouring, though the most perfect truss was the large white *Aucklandii* hybrid. The yellow *R. campylocarpum* and *Luscombe splendens* were also admirable. In Messrs. Gill's collection there was a grand plant of the large-flowered *R. Nuttallii*.

Roses and Carnations continue to be shown in great beauty, and Mr. James Douglas had a selection of his famous *Annulatas*. The variety he selected as one of the very best was Anthony, a fine yellow self, though we liked the wonderful colour of Brilliance, in which the bright cerise was set off by the mealy leaves.

The only exhibit of fruit was a collection of late Apples by Sir Montague Turner, Bedford's,

Havering, Romford. The dessert sorts included Duke of Devonshire and Scarlet Nonpariel, while Annie Elizabeth, Laue's Prince Albert and Newton Wonder of the culinary varieties were also plump and of good quality.

From the Chalk Hill Nurseries came an exhibit of excellent Pansies. These were grouped on the ground and attracted considerable attention.

NEW AND RARE PLANTS.

Aubrietia Glory of the Garden.—A very showy and floriferous variety which may be said to be



MYRIAD GOLDEN BELLS OF SOPHORA TETRAPTERA.



AN ADDITION TO FLOWERING APPLES—PYRUS ELEIYI.

an improved Dr. Mules, and would no doubt be even more effective in the garden than it was indoors. Shown by Mrs. Lloyd Edwards.

Azalea Korang Yuki.—This is apparently the native name of the Azalea Kämpferi variety—one of the many forms of this variable species, which have become known as Kurume Azaleas. It is a beautiful little bush bearing many smallish salmon-vermilion flowers. Award of merit to Mr. R. C. Notcutt.

Marguerite Golden Mrs. F. W. Sander.—This is a pale golden sport from the well known double white Marguerite and is recommended for window boxes and for summer bedding. It is a very floriferous plant. Shown by Messrs. Sander and Son.

Erinacea pungens.—Most alpine gardeners find some difficulty in inducing the "Hedgehog Broom" to flower at all freely, but Mr. Prichard was able to show a rounded bush quite 20ins. across and densely furnished with lilac, pea-shaped flowers. It was introduced from Spain in 1759, but is still a rare shrub in gardens. Award of merit and cultural commendation to Mr. M. Prichard.

Narcissus Firetail.—This well known and "best of all Barrii" varieties already had received an award of merit and now gains the highest award. It was splendidly shown. The flowers were all very large, of beautiful form and the dark orange coronas were almost blood red at the rims. First-class certificate to Messrs. F. H. Chapman, Limited, and the Anglesey Bulb Growers' Association.

Narcissus Pelican.—A very handsome Barrii bloom of large size and possessing plenty of substance. The perianth is primrose coloured and the cup-shaped corona is rich orange yellow. Award of merit to the Anglesey Bulb Growers' Association.

Narcissus Sea-Shell.—A chaste and beautiful Leedsii bloom. The perianth is white and the large, widely open corona is sulphur yellow deepening to deep primrose at the margins. Award of merit to Mr. W. B. Cranfield.

Narcissus Silver Salver.—The most distinct Leedsii blooms in the Show. Except for the suggestion of pale green in the very centre of the flowers they are pure white, and so it might well be termed a white Poeticus Narcissus. Award of merit to Messrs. F. H. Chapman, Limited.

Narcissus White Coral.—A Leedsii bloom in which the corona is nearly equal to the perianth. It is of milk white colour and is a very charming flower. Award of merit to Mr. W. B. Cranfield.

Primula fasciculata.—A pretty little Primula somewhat like a paler Primula rosea in the early spring that has slightly separated petals. The plants, which were only a few inches high, make little tufts of shining green spatulate leaves on rather long, fleshy stalks. The bright rosy mauve flowers are rather variable in colour and have a small yellow eye. Award of merit to the R.H.S.

Prostanthera rotundifolia.—This is one of the Australian Mint Bushes or Mint Trees, so called because they have resinous glands which are usually strongly scented. It is a tender, elegant little erect shrub which bears small green leaves on rather long stems. The purplish-mauve flowers are uncommon and quite pretty. Shown by Messrs. R. Veitch and Sons.

Pyrus Eleyi.—A seedling Crab which might be termed a glorified Pyrus Malus purpurea. The flowers are larger and brighter in colour than that well known spring-flowering little tree, and it also possesses the attractive purplish tinge to the young foliage. Raised by Charles Eley, Esq.; exhibited by Mr. R. C. Notcutt; award of merit.

Rhododendron sino-grande.—As the name implies, this is a Chinese form of R. grande, though in some particulars it might be termed a glorified R. Falconeri, which is, by the way, a very variable species. Even out of flower it is a handsome shrub, as the lustrous green foliage is very large and

silvery underneath. The big truss bore many white, veined, bell-shaped flowers on long woolly stalks. Unfortunately it is not a hardy plant, except in very favoured places. Award of merit to Dame Alice Godman.

Rhododendron William Watson.—This exquisite hybrid between R. Ascot Brilliant and R. Uplandii was not put forward for the award which, if presented, it must have received. The colouring is very remarkable, the major portion of the flower being blush, but the points of the petals are of deep reddish pink shade, thus affording a striking contrast. It has excellent foliage and is said to have proved hardy in several not especially favoured localities. Shown by Messrs. R. Gill and Sons.

Rose White Ophelia.—There can be no question but that this is a sport from the valuable Ophelia Rose, for it is identical in every way except that it is very much paler in colour. Though we should scarcely term it a White Ophelia, it is a chaste and beautiful bloom. Award of merit to Mr. E. J. Hicks.

Sophora tetraptera.—A glorious branch of this half hardy shrub, densely furnished with its pea-shaped deep golden flowers, was shown. It is a native of New Zealand, and except in the very warmest parts of this country must be given the protection of a south or west wall. Occasionally the handsome flowers are succeeded by curious necklace-like seed pods. Cultural commendation to Messrs. R. Veitch and Sons.

CORRESPONDENCE

THE TALLER CAMPANULAS.

MISS JEKYLE'S interesting article upon the taller Campanulas is a most useful one for lovers of hardy plants. Spetchley Park, famous for the wonderful race of hybrid Primroses, is also the home of improved developments of many of our hardy plants. Mrs. Berkeley is a born hybridist, and her unerring selection of the best forms has always filled me with admiration. Campanula lactiflora type is rather washed out in colour and is said to have been named from its resemblance to the bluish hue of London milk. Mrs. Berkeley has for some score or so of years selected and grown on her seedling Campanula lactiflora until she has a fine race of stiff-stemmed plants which stand of themselves, unless an unusually heavy rainstorm sweeps over the garden when they are in full flower. She grows pure white forms some 8ft. in height but, the pride of the species is the grand erect deep-coloured variety which is often 10ft. high, with large open-mouthed bells of rich purple, and seen in a mass as grown at Spetchley it is a glorious sight not easily forgotten. Campanula lactiflora used to grow exceptionally well at Edge Hall, and in one corner of the garden the tallest of the plants were well up to 12ft. or 13ft.

At Warley I have some plants with Soldanella-like flowers, but this is not an uncommon occurrence. — E. WILLMOTT.

LONICERA NITIDA.

UNDER the heading "A Valuable Evergreen," Mr. H. C. Wood asks for the experience of amateurs with this shrub (page 218). Our experience here is that, in view of the vast number of better things it is not worth the ample space which it claims. The foliage, certainly, is neat, but the flowers are so inconspicuous as to be negligible; the berries, however, are a very pretty, translucent anethyst purple, but they are so small as to require to be produced more abundantly than has ever happened here to be of much account. On page 219, Mr. E. Shoosmith writes disparagingly of Oleanas as "never very beautiful." This is a singular verdict upon a genus containing such charming evergreen shrubs as O.O. macrodonta, nummularifolia, nitida, illicifolia and semidentata. It is true that these prosper only in mild districts, but O. Haastii is much hardier and makes a fine

show when sheeted with chalk-white blossom in August.—HERBERT MAXWELL, *Monreith*.

THE SINGLE ARABIS.

THE old white Arabis, A. albidia, is too rampant a grower to be useful near plants with any



A DRY WALL CLOTHED WITH ARABIS.

pretensions to being choice, but it has its uses, none the less. It seems nowadays largely to have been ousted by the even more rampant double variety, which is certainly more lasting, but is otherwise less desirable. For smothering clinker-built banks or unsightly retaining walls it is truly excellent, but it should not, of course, be largely used where the wall material has any intrinsic beauty. The picture, I think, well illustrates its "hiding up" potentialities.

There is now a fashion to run down the whole Arabis family, but A. ambretioides is a lovely and not at all rampant plant and some of the still smaller forms, such as A. Sturii, are favourites of some who know Alpines really well.—E. N. Q.

MONOTONY IN GARDENS.

THIS is a subject that has been written about to any extent, and I am afraid that the people who need teaching how to get some variety into their gardens are those who never see a gardening paper. I find that though my pupils all seem to have gardens at home, they are all unacquainted with the majority of my plants. I think that outspoken criticism of dull gardens, if done tactfully, is the only way to rouse general amateur gardeners to a sense of the appalling dullness of their own gardens. This powder, if followed by the jam of promised seedlings and cuttings, is swallowed quite calmly. It is also a good plan to exchange small plants with friends living at a distance, as every neighbourhood seems to favour some particular group of plants. Even cottage gardens vary in different parts of England. This is, I know, partly a matter of soil and climate, but not entirely. The *Chœranthus* family is very long-suffering, and yet how often does one see any member except the double or single *C. Cheiri*? I wonder if any readers of THE GARDEN can tell me where to get the green winter-flowering Hellebore. I had so much of it in Hampshire that I was careless of it and only brought away one small piece, which was destroyed while I was away in the summer. Now I am miserable not to be able to find it again anywhere. It is one of those January-flowering treasures that are apt to be forgotten at planting-time, as one does not miss it until winter comes. Very few gardens seem to have it, but I saw quantities of it in Shakespeare's garden at New Place. Another wild plant which I always found very useful to fill up in poor positions under trees is the variegated *Bitouy* and that I have also lost.—ETHEL CASE, *Saanage*.

AN INVALUABLE TREE.

TO lovers of flowering shrubs I would say, plant *Prunus Magellanica* (that was the name it was given when I bought it some years ago). It has already blossomed twice this year, and my gardener tells me it will bloom again at mid-summer. Branches of it keep fresh in vases for so long, and I tell him to layer it and propagate it in every possible way, for it is so gay in black winter months.—F. L., *County Dublin*.

Our correspondent's tree is doubtless *Prunus microlepis*, generally known in gardens as *Prunus Miqueliana*, though from *P. Miqueliana* (*Maximowii*), it is quite distinct. It is sometimes considered a form of *P. subhirtella*, to which it is, in any case, closely related. Lady Moore referred to this beautiful tree in our issue of February 11, 1922, page 64, and it was illustrated in THE GARDEN last autumn as *P. subhirtella autumnalis* (October 8, 1921, page 502).—ED.]

NARCISSUS DEFORMITY.

I WONDER if any of your readers have had the same experience with *Bernardino* Narcissus this year as I have. I have about fifty of this variety, and nearly every bloom which has opened has been deformed and a great many buds have been "blind." I believe one of the parents of *Bernardino* is *Lulworth*, which is very apt to be deformed and have eight petals.—H. G. HAWKER, *Ivy Bridge, S. Devon*.

THE DAFFODIL SEASON OF 1922.

SURELY this has been the strangest Daffodil season on record. In February I said to my head man: "It is going to be an early season; the growth is so forward that nothing can now keep it back." I ought to have known better, and to have called to mind past Aprils, such as the one when Mr. Engleheart's Daffodils were all buried under about a foot of snow; that is,

all but one King Alfred, which was very tall and was tied to a stick! Also, another season when a heavy snowstorm was falling as we left the Birmingham Show about April 25. To return to the present season. We kept thinking that the weather would certainly change, but if the wind did get out of the east for a few hours it was soon back again. We hoped to exhibit in London on April 10; there were then about four or five varieties of early trumpets in bloom and that was all. "Well, we will get to Birmingham on April 20 and London April 25." The best laid schemes of mice and men, etc. Some fifteen nights of frost in succession acted like cold storage, and we had to attend both these meetings without any flowers. At long last as I write (May 6) we have cut a very good lot of blooms for Vincent Square, May 9, in spite of more frosts and two or three gales. I said to one of my friends some years ago that a Daffodil grower's year was "eleven months of waiting and one month's pain."

Does not this season verify the above? The wonder is that after all this frost, hail, wind and other bad forms of weather many of the Daffodils have come to perfection and even above their average in size and form, while some of the earliest trumpets are still flowers of a sort after enduring

nearly twenty frosts and having been out for quite a month. A curious thing is the effect which this retarding season has had upon the relative blooming periods; early, late and midseason have all been out together. To show this I give a list of the varieties cut for market by my firm on May 4, and all these were fresh flowers in really good condition: Mrs. Langtry, Argent, Emperor, P. R. Barr, Empress, Horsfieldii, Lucifer, Frank Miles, Minnie Hume, Florence Pearson, Fairy Queen, Giant Leedsii in variety, Evangeline, Lulworth, Autocrat, Mme. de Graaff, Amazon, John Bain and Poeticus precox grandiflorus. It is not often that *Horsfieldii*, Mme. de Graaff and Lulworth can be cut in good condition on the same day. A very early and a very late season seem to have much the same effect upon the relative times of flowering; the one rushes all out together, the other keeps all back to one date.

Well, I suppose we poor Daffodil enthusiasts—maniacs some of our kind friends and relations call us—will go on growing and worshipping at the shrine of our queen of spring flowers as long as we are able to get about at all, in spite of bad weather and all the other troubles which beset us, always looking and hoping for that perfect April which never, never comes.—J. DUNCAN PEARSON, *Lowdham, Notts*.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Salads.—To maintain a constant supply of Lettuce, Radishes, etc., during the early part of the season it is absolutely necessary to have the aid of some cold frames, but from the present time all hardy salads may be raised outside. The place devoted to them at the commencement of the season should be a warm border and the soil made as light as possible. If light skeleton frames can be arranged for so that a covering may be given at night, so much the better, or shelter may be obtained by spacing the early rows of Peas and Broad Beans so that a row of salads may be grown between them. On light soils during the hottest weather it will be found best to sow Lettuce seeds thinly where they can grow to maturity, and avoid possible losses from pricking out when the weather is dry and unfavourable for such seedlings to become re-established.

Thinning out of Carrots, Parsnips, Onions, etc., should be proceeded with as each successive sowing becomes sufficiently strong, choosing showery weather for such work if possible. No hard and fast rule can be given respecting such work, as it is entirely a matter of thinning to suit each grower's requirements.

Marrows may now be planted on beds prepared as advised a few weeks earlier. Where a couple of frames can be spared several weeks will be gained by placing them over the plants on the bed for a month or so. Marrows will also do quite well on the level ground. One of the best crops I have ever seen was grown in this manner by a small farmer in Monmouthshire who marketed considerably over two thousand fruits during the season. It is always advisable to keep a few Marrow plants in reserve until June is in, for one cold night may spoil all early plants.

The Flower Garden.

Liliums that have been given a start in pots previous to planting out in the herbaceous border or other positions may now be placed in their flowering quarters. Where the soil is of an unsuitable character it should be replaced with a compost of fibrous loam, peat and leaf-soil, taking care that the drainage of the position is in good order.

Staking.—The staking of many border plants will demand attention at frequent intervals and such work should be carried out with the least possible display of supports so long as there is sufficient to hold or train the plants as desired. Anything approaching making besoms or faggots of the various plants should be carefully avoided, and if a few stray shoots are left untied no very serious crime is committed. A far greater one is to make each plant or shoot to have the appearance of "standing at attention."

Planting.—Three good plants which may be got into their flowering quarters as soon as convenient after this date are *Cannas*, *Calceolarias* and *Salvia patens*. The first named is an excellent plant, and may be used in a bed or as relief plants among dwarfier plants. In a streamside or woodland bed they are fine with Tiger Lilies. *Ampelxicaulis* is, I think, the best of the *Calceolarias*, and as a bush or standard can be effectively used with other plants. It associates well with *Heliotropes*, *Streptosolen Jamesonii* and *Salvia patens*, and should it be planted where an edging is required, one with a silver-grey tone is pleasing. *Salvia patens* is one of the most effective blue bedding or border plants we have, being equally at home in the mixed border as in a formal bedding arrangement. Its lovely rich tone will be seen to greater advantage if the plants in its immediate vicinity have a somewhat quiet colouring.

Fruit Under Glass.

Inarching Vines.—This operation may be performed when the plants are resting or when in active growth, and the latter is certainly the safest, and is a very good way of introducing new blood into a permanent viney. It is the union of two growing shoots of about equal thickness, and is carried out by cutting away a portion of the stock and scion at the proposed place of union for a length of about 3 ins. until they fit into each other perfectly, in which position they should be securely bound and kept so until the union is thoroughly secure. The scion should then be gradually severed from its own root and the stock Vine not allowed to make much growth but forced rather to concentrate all energy upon the scion.

H. TURNER

(Gardener to the Duke of Northumberland),
Abby Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Brussels Sprouts.—Plant out the main batch of these which have been raised in frames. Allow 3 ft. between the rows and 2 ft. between the plants in the row, as when given generous treatment a wide spread of foliage results. Brussels Sprouts enjoy a lengthy season of growth. The soil between the rows should be cultivated freely before finally earthing up.

Asparagus will now be pushing up strong heads as the warmth increases. Keep the beds clear of weeds and encourage weak plantations by sprinkling a quick-acting fertiliser through the bed. Soot is also a commendable stimulant. Beds that were planted during this spring should be given a light mulch of half-rotted horse manure so as to prevent evaporation during hot weather. Thin seed-beds, as it is essential that no overcrowding take place. Stir the soil between the lines with a hand cultivator and water freely.

ORCHARD

GARDEN

WOODLAND

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SOME EARLY BROOMS and other THINGS

FULL as your spring garden may be with fragrant flowers, I do not think there is anything of its time whose perfume is so all-pervading as *Cytisus præcox*. Sun and heat it wants, of course (what Broom does not?), and these we have had this year, in May's first week, just in time for this lovely shrub to give us of its sweetness with unusual prodigality. *C. præcox* has inherited the rich fragrance of one of its parents, *C. purgans* of the Auvergne, and the grace of the other, *C. albus*. The latter need not be extolled here, but I think some of us might extend a little more appreciation towards the former and for these reasons. It is a close-habited, neat little bush 3ft. to 4ft. tall, hardy, easily grown and one of the earliest of its race to flower. It enjoys a really hot place. Give it that and it will be a flaming mound of rich golden-yellow in April, or earlier; it will remain in flower a long time and be indescribably fragrant all the while.

C. Ardoini is a rock garden gem that will insist on being given its due recognition by the brilliance of its yellow beauty and freedom of blossom. It was this shrublet and the white Broom which gave us the charming hybrid, *C. kewensis*, an elegant, prostrate Broom which bears its clusters of ivory blossom about the same time as the above. There is something peculiarly refined about *C. kewensis*. Another good dwarf Broom which has this year, at any rate, made good its claim to be counted among the earliest is *C. decumbens*. It is very prostrate with a distinctive silky foliage and copious spikes of large yellow flowers.

Cytisus mouspessulanus (*candicans*) is a member of this clan which ought to be more widely grown,

for while it is quite hardy, it has all the good points of *C. fragrans*, to which it bears a very close resemblance. This graceful, leafy shrub grows to a height of about 6ft., but it begins to flower when scarcely out of the seedling stage and increases in beauty year by year. The first blooms usually appear in April, the shrubs attaining their full prolificacy at the end of May, but a succession of flowers is maintained pretty well right on to autumn. *C. mouspessulanus* is not long lived, but it comes so easily from seed sown in the open and grows so fast that it is an easy matter to maintain a stock and to grow it in large groups. Like most others, this species enjoys a light, warm, stony soil and an open situation, but it does not object to thin shade.

Writing of the days before the Azaleas (save the Japanese kinds in the rock garden) have begun to overwhelm all else about them with their colour and scent, those spring-flowering *Berberises* which are most notable for their blossom rather than their fruit are always conspicuous. The respective

splendours of those two rivals, *B. Darwinii* and *stenophylla*, defy comparison, though one is not forgetful of the fact that there are good, better and best forms among both. So to the lesser lights, to *empetrifolia*, an attractive little shrublet which (with *Darwinii*) gave us *stenophylla*, and on to the many hybrids of the last named, many of which are well worth attention. Then there is *B. buxifolia* (*dulcis*) with its dwarf variety, *nana*, both well known, but none the less estimable on account of their compact growth, deep green, glossy foliage, and the large and early flowers. *B. s. Irwinii* might be described as a diminutive *Darwinii*, and with that recommendation one need not say any more. It is an ideal, early-blooming, rock garden shrub. Yet another of this inexhaustible family to which is due at least a passing notice is *B. pruinosa*, whose arching wands are so prettily hung with their fine yellow globes (and as often as not the glaucous last year's fruit) throughout the middle period of spring. *Camellia Donckelaarii*, which has been

flowering since early April, is still (four weeks later) a conspicuous object in the woodland, the large crimson-scarlet rosettes having an admirable background in the rich green of the foliage. Near this shrub a stripling *Magnolia conspicua*, var. *superba*, is bearing one of its wonderful blooms at the tip of almost every twig and, in striking contrast to the rather stiff and naked Yulan, the long, arching wands of *Exochorda grandiflora* sweep towards the path in a cascade of purest white and soft grass-green foliage. Though as leafless as in the dead of winter, a Judas Tree (*Cercis Siliqua-strum*) is here beginning to blush redder day by day with the rose-purple blossoming spurs which are opening on twig and branch.



THE UNCOMMON DEEP GOLDEN BROOM, *CYTISUS PURGANS*

Pyrus (*Malus*) *floribunda* rises like a little cloud of pink beyond a group of double Gorse which adorns a distant bank, while in the middle distance, lighting up the shade of woodland trees, is a grouping of *Fuphorbias*, most striking of which is *E. polychroma* with heads of brilliant yellow.

* The winter-spring Heaths having come nearly to an end with *Erica mediterranea*, var. *superba*, thus keeping the "good wine" to the last, there might be a break in the succession of these delightful plants until the summer bloomers begin. But *E. australis* fills the gap at this stage and none could do it better. For few, indeed, are the taller species or varieties of this fascinating race which can rival *E. australis* in colour, foliage and distinction. *Bryanthus empetrifomis* is also at

its best at this intermediary period. As for the Azaleas, one does not enter their territory without hesitation, but a passing notice must be made of one or two of the very first to flower. Among these I have an affection for the old *A. amœna*, even if its crimson is a little keen. It is so lavish with its blossoms, so undisturbed by unkindly weather, and after all the hybridist owes it much.

The familiar *pontica* is widely grown in woodland for the sake of its perfume and early blooming. *A. ledifolia* var. *narcissiflora* is another that comes among the forerunners of its kind, and surpassingly lovely it is with its double lilac, very fragrant flowers. The evergreen *A. ledifolia*, sometimes blooming in early April, and like a pure white *indica*, is as trustworthy as it is good. Very

fresh and delicate is *A. Vaseyi* in a waxen pink and white, and this year *Rhododendron punctatum* (*minus*) in a cool blush, and very delightful on its shady bank amid creeping Ivy and unfolding Ferns, has been just in time to take up the tale where *R. racemosum* left off.

North Wales.

A. T. JOHNSON.

NOTES FROM GLASNEVIN

BY LADY MOORE.

THAT remarkable hardy bog plant, *LYSICHTUM CAMISCHATCENSE*, gives to the bog garden in the month of April a glow of very welcome colour. Its bold rich yellow Arum-like flowers, which are often 18 ins. in height, remain fresh for two or three weeks. The sheath or spathe then falls back, showing the long spadix covered with tiny cream-coloured flowers, the spiral arrangement being clearly seen. Later the leaves push through. Of a beautiful bright green marked with a darker shade, they are very large, about 3 ft. long and 1 ft. across. The large succulent roots go deep into the bog. It seeds freely here all round the parent plant. In North-west Canada it is called the Skunk Cabbage. It fills the marshes and stretches for miles along the lake shores.

The early-flowering *OURISIA MACROPHYLLA* is a native of New Zealand, where it grows in damp mountainous localities. Its evergreen leaves are pointed oval in shape, 3 ins. long, deeply veined, produced from creeping stems. The pink buds appear about the end of March; the flowers are white with yellow hairy centres and dark brown veining. They are three-quarters of an inch across, borne in whorls on strong dark stems which grow to a foot or more in height. A fine plant here grows on a rocky bank facing north and has spread into a thick tuft. The soil is half peat and half loam. It is well drained, but remains moist during the summer. This plant dislikes sun. It comes very freely from seed. *Ourisia coccinea* is often seen in gardens. Its bright scarlet tubular flowers make a great show, but for distinction and charm it cannot compare with *O. macrophylla*.

LATHREA CLANDESTINA is remarkable and interesting in that it is a parasite, growing on the roots of trees, its favourite hosts being the Willow and Poplar. A plant established on the roots of a deciduous Cypress has been recorded. It has thick, fleshy, scaly white rhizomes; its stems are nearly buried in the earth. The flower-buds are produced in thick spongy masses, which open into greyish violet-coloured flowers with a dark purple lip. They are 2 ins. long, erect and very numerous. The plant in this garden was established on the roots of a Willow on a grass bank beside the river. It is now (April 24) in full flower, and the effect is like that of a mass of purple Crocus. It evidently seeds freely, as it has extended 10 ft. on each side of the Willow beyond the original plant. It likes a damp soil. At Mt. Usher, Co. Wicklow, Mr. Walpole's well known garden, I have seen it a solid square yard of purple flowers, on the roots of a Willow beside a little stream, unshaded by grass—where one could see these curious supercilious-looking flowers to great advantage. It is common in hedge banks in the Pyrenees and in the South of France; it is also found in Belgium, Spain and Italy. It is much more attractive than our anemic English *Orthwort*, *L. Squamaria*.



THE ADMIRABLE WEEPING BROOM, *CYTISUS KEWENSIS*.



THE WHITE PORTUGAL BROOM, *CYTISUS ALBUS*.

THE HOLLYHOCK

Its uses in every style of garden, methods of propagation, and ways of avoiding and overcoming disease.

THOUGH the double Hollyhock of to-day is a different flower to the double varieties in vogue, say, in Parkinson's time, inasmuch as its beauty is greatly enhanced by a very noticeable ring of guard petals, yet everyone agrees in considering it an old-fashioned flower. It would be interesting to know just what it is that makes a flower seem old-fashioned. Is it perhaps a certain primness of growth and finish of flower such as were dear to the heart of the old florist? The symmetrical bush and regular flower of the double Peony, for instance, is eminently old-fashioned. With the more truly beautiful single Peonies, which possess more of grace and less of form, much of the old-fashioned feeling is lost. So is it with the Hollyhock. The stiff spires of the double sorts, with their individually perfect blossoms so regularly arranged on the spike, have a quaint artificiality which stamps them as old-fashioned; but the equally, if not more beautiful, single-flowered, fig-leaved and Allegheny strains are especially when well grown and bushy, not old-fashioned at all—are, in fact, as modern in feeling as their cousins, the Lavateras, Sidalceas and Mallows.

Ancient or modern, there is no garden larger than a backyard which might not well be adorned with double Hollyhocks, and the old or new style of the garden may equally be upheld by them according to their arrangement. If the setting is old-fashioned in character, the Hollyhocks should be planted in serried ranks even as they were planted centuries ago. Plant them, however, in bold and somewhat irregular groups at the back of the herbaceous border with one or, at most, two colours in a group, and they are, at once, as modern in conception as is the system of boldly grouping plants in balanced, but informal array.

There is a wide variety of plants suitable for the herbaceous border, but those who design such borders are well aware of many wants among herbaceous plants still very imperfectly filled, if filled at all. There is, for instance, small alternative to the use of Hollyhocks in the back row of the border. We have, it is true, golden perennial Sunflowers of sorts, Mulleins in creamy white and soft yellow and some of the tallest Delphiniums in shades of blue and purple, Tree Lupins again in white and soft yellow and then, without Hollyhocks, we are finished.

Very fortunate is it, then, that the Hollyhock has a wide range of colouring and that its shades are such that they harmonise not only with other shades of this flower, but with other hardy flowers, so that in a border with a wide colour range they may be employed throughout and so assist in emphasising the essential unity of the whole. The maroon shades may be used in combination with the salmon-pinks to make a striking group, or if employed in a section of the border where yellow-pink tones prevail, they provide a delightful foil to these. Crimson and soft yellow Hollyhocks and azure blue flowers of some sort—what a combination! or the crimsons may be Hollyhocks and some soft yellow foreground planting be introduced. Again, crimson and rose Hollyhocks may be used together satisfactorily in those sections of the border where mallow-pink is a feature; or, on occasion, the pure white may replace the crimson in the combination. If the single-flowered forms are used even more subtle combinations may be employed, since the flowers themselves usually contain a combination of shades.

Hollyhocks may be propagated from cuttings of the shoots produced at the base of the plant, and years ago, before the advent of the dread fungus, always were so propagated. Named



A CREAM-PINK SINGLE HOLLYHOCK.

varieties may still be purchased from Messrs. Vert, the firm who to-day carry on the Saffron Walden business started by the famous Chater; but most people are content to raise theirs from seed, or to buy plants so raised. If seeds in separate colours are procured from a reputable firm, they will be found to come true to colour and wonderfully close to type. They have, moreover, a vigour which vegetatively propagated stock cannot rival. This is no small merit, since height is one of the Hollyhock's principal attributes, and resistance to disease is vital.

The present is an excellent season at which to sow the seeds in drills in a cold frame or even outdoors. The ground should be moderately

rich without being gross—the Hollyhock is not a rank feeder like the Pentstemon. The seeds are large and not cheap to buy, so should be sown thinly. The plantlets should not be coddled, but should, when large enough, be carefully pricked out in nursery rows at least a foot apart. Given good culture, they should be large enough to be moved into their permanent stations this autumn.

Reference has been made to the Hollyhock fungus, or "rust," as it is sometimes called. This unquestionably is often transmitted with the seed, so that seed from infested plants should never be sown. Spraying with Bordeaux or Burgundy mixture is valuable, especially as a preventive; but the special powder offered by Messrs. Vert is easier to apply and certainly not less effective. Plants are like animals in this, that each race seems to obtain, with time, a certain immunity from, or resistance to, a particular disease. Certainly the Hollyhock disease is to-day an innocuous complaint compared to what it was years ago, when it practically drove the Hollyhock out of cultivation. It might before now have been stamped out had not it affected our wild Mallows Diseases which attack wildings are, of course, difficult of control. The Hollyhock is not, unless propagated, a long-lived plant—at least, old roots lose much of the stately port which is so much admired—so that batches of seedlings for replacement purposes should be raised at any rate every second year; but it is probably better to raise half the quantity each year so that casual gaps may be filled without trouble.

PRIMROSES

THE inspiring account of Mrs. Berkeley's splendid strain of coloured Primroses arouses a combination of the sentiments of encouragement and regret in the mind of a fellow worker among these inestimable spring flowers; encouragement, for the assurance, already well proved, of the sure reward of many years' careful selection, and regret that one cannot do a great deal more. For, unless one can be wisely content, as is the owner of the Spetchley Primroses, to grow all the colours together, one cannot repress the desire to take each good colouring separately and work along with it till one has got to the best in that particular colour, or to something so near the best that all the varying blooms shall be good in themselves and go well together. The sentiment of regret includes the fact that I have not four or five quite separate gardens, of which one would be on a good loam and one on chalk and one in naturally cool woodland; whereas my sole garden is on a dry, hungry sand, with a hundred feet of sand and rock under it and above any natural water; so that Primrose growing is a constant fight against natural conditions and a constant expense for yearly manuring. There are some charming forms that I cannot grow at all, the old double ones, white, pale yellow, pale lilac and crimson; they simply die out, for they are only contented in a good loam such as is also the delight of Auriculas. These too are denied me to my unending regret, for both to sight and scent, and indeed in all their ways, they are to me some of the most joy and thankfulness-giving flowers. I can never sufficiently praise and enjoy the adorable way in which the colour and texture of the flower surfaces work together to form their miracle of beauty and delight.

The large garden Cowslips are fine things of delicious scent, but they are dangerous to have in a garden with other Primroses. The Cowslip influence is so strong and carries so readily that it they are anywhere near it is difficult to keep the Primroses true. GERTRUDE JEKYLL.

SOME ALPINE PINKS

THE veriest tyro with a small rockery will usually cultivate a number of more or less suitable varieties of *Dianthus* upon it. Many of the sorts frequently seen upon such rockeries are mongrel forms owning probably a certain amount of Cheddar Pink "blood." The Cheddar Pink (*D. cæsius*) is assuredly an easy and worthy plant for the rock garden, though perhaps the form *D. c. arvensis*, much more compact in habit and shorter of stalk, will appeal more strongly to the real alpine enthusiast.

The limestone-loving *Dianthus alpinus* is not easily persuaded to give of its best in Britain; still, even as it grows here, it is a singularly beautiful plant with rich green, broad, blunted-ended foliage and flowers of such regularity and roundness as would suit the lover of florist's flowers. There are numerous varieties, but it is doubtful whether any excel in beauty the typical plant.

Dianthus callizonus is, many would say, even more beautiful than *D. alpinus*. It is lighter in colouring with a darker zone sprinkled with white spots. Both *D. D. alpinus* and *callizonus* and the hybrid between them (*D. cal-alpinus*) like abundant sunshine in well drained soil. The ravages of slugs and snails must be guarded against. The hybrid is roughly intermediate between the two species, which cross very readily.

Dianthus neglectus is also a sun-lover, but does not appreciate calcareous soil and succeeds best of all in the rocky cliff. This is a variable treasure, but at its best the cherry-red blossoms with a buff reverse are among the most vivid things in the June rock garden. *D. D. alpinus* and *callizonus* do best in the moraine, but the same cannot be said of *D. neglectus*, though it may be established there.

Dianthus sylvestris, so called as Farrer pithily puts it, "because it is never found in woods," should more properly be known as *D. inodorus*. It is a more variable plant than even *D. neglectus* with clear pink blossoms, sometimes round and smooth edged, anon starry and toothed. *Dianthus frigidus* of gardens is, according to Farrer, but a form of this species, but it is for garden purposes sufficiently distinct, with large blossoms on quite short stalks.

Dianthus superbus, with blue, deeply fringed flowers on rather weak foot-tall stems is a sub-alpine species which likes a western exposure. Its scent is truly delightful.

The Maiden Pink, *D. deltooides*, needs little description. It will seed itself and flourish almost anywhere—even in the gravel of the garden path. The best forms of this rather variable plant are, however, both beautiful and striking, and it flowers when many alpinists are over. This is interesting as a native species. Botanically *D. graniticus* is quite distinct from this, but from a garden

standpoint they are much alike. The cluster-headed Pinks, though many of them true alpinists, are hardly beautiful. They resemble too much a singularly ill-grown Sweet William. *D. Carthusianorum* may be taken as the type; it has several varieties. Then there are *D. cruentus*, even taller and weedier, but with paler crimson flowers; *D. atrorubens*, dwarfier in habit and with larger and more showy flower-heads, and a host more, all inferior to a good strain of the Maiden Pink, for instance.

Three tiny forms for the moraine shall conclude this brief note. These are *D. D. microlepis* (*pumilus*), *Freyui* and *glacialis*. The two former

can hardly be separated, as they are much alike and both variable. In both the flowers are carried quite close to the spreading, tufted, rather glaucous foliage. *D. glacialis* differs in having rather larger tufts of greener foliage with relatively smaller blossoms.

Much of the want of vigour often attributed to the choicer alpine Pinks has come about by over division. They should, whenever possible, be raised from seed, but in saving one's own seed steps must usually be taken to prevent cross-pollination if the different species are required true. Collected seed of many sorts is cheap and, of course, reliable.

WALLFLOWERS IN THE SPRING GARDEN

BY GERTRUDE JEKYLE, V.M.H.

THOSE who live on chalky soils should remember that they would do well to give special attention to the Wallflower and all its tribe. Plants of the order Cruciferae will thrive in any good

Those who are on a suitable soil and who are able to give a separate place to a garden of spring flowers, will have the opportunity of growing Wallflowers to the very best advantage.

They are splendid in long drifts as a groundwork to Tulips of accompanying or contrasting colours—Tulips of scarlet and deep orange with the blood-red colourings, pink Tulips with ivory white, leading to white Tulips rising from sheets of Forget-me-not and Aubrietia. Then tall yellow Wallflowers, largely intergrouped with the tall *Doronicum*, with yellow Tulips in front and a bold backing of the plaited-leaved *Veratrum* and the larger fern-like leaves of Sweet Cicely; and these running into clumps of Solomon's Seal, with corresponding dwarf yellow Wallflowers to the front. There are now splendid colourings of rich, deep orange that tone grandly into the mahogany browns, and form the finest possible setting for Tulips of near colours.

Many as are the good new forms of the sweet and welcome Wallflower, there is one class of colouring that has as yet escaped the bettering of which it is undoubtedly capable at the hands of the selecting seed grower. The old purple Wallflower is already a valuable plant, but the redder forms that have evidently been derived from it seem to have exclusively absorbed the energies of the grower, to the entire neglect of the really good cool purple that is so badly wanted—a purple inclining towards blue rather than towards red. We want such a purple to go with Tulips *Ergaste* and *Rev. Ewbank* and the old tall double, *Bleu Celeste*. It would also be a lovely thing in combination with white Tulips

and double *Narcissus poeticus*, with a ground covering of *Aubrietia* and white *Primroses*. Any influential seed house that would promote the growing of such a good purple Wallflower would be doing a signal service to horticulture and could hardly fail of finding the just reward that awaits the production of something that is really wanted.



SOME TYPICAL WALLFLOWERS.

oam, but do specially well on chalk and are never happy or really vigorous in places where the soil is light or sandy. It is easy to remember this by thinking of the natural habitat of the wild Wallflower; the joints and crevices in the masonry of old walls and ancient ruined buildings, where it is most usually found, the roots feeding on the relics of the old mortar.

THE GREAT SPRING SHOW AT CHELSEA

As Seen by THE GARDEN'S Special Staff of Disinterested Correspondents.

GARDENING in its different aspects is a profession, a science, an art and a hobby. Results, good or bad, every gardener obtains, and results rather than events absorb the average gardener's interest. Events in the world of horticulture may be summed up in two words—flower shows—and the average amateur gardener or, as we should prefer to call him, the enthusiastic garden hobbyist takes little interest in ordinary flower shows. If he subscribes to and takes an interest in the local horticultural society, he usually does so rather as a duty to his neighbours than for any particular pleasure the show affords him.

The fortnightly meetings of the Royal Horticultural Society with their ever-flowing stream of new introductions probably interest him—directly if he live within easy reach of London, indirectly through the columns of *THE GARDEN* if his work lie further away. The summer shows usually held hitherto at Holland House he has regarded as glorified—much glorified—"fortnightlies." "Chelsea," however, as the spring show is universally, one had almost written affectionately, called, is *the* event of the gardening year. It is in many ways entirely different to the fortnightly meetings. There are, of course, plants put up for award at Chelsea, but they form but a very small part of the attraction of the show.

By far the greater number of visitors to the Hospital Gardens are there, primarily at all events, to gather ideas as to garden arrangement. It may be urged that if this be so it is rather remarkable that the garden designs displayed in their special tent are not more largely visited.

For this, however, there are at least two reasons. In the first place, not everyone in search of ideas as to garden arrangement wants his garden re-designed. He may be in search of colour effect for a particular border or he may think, for instance, of introducing or adding a rock garden. In neither case will he feel the want of a comprehensive garden plan. Secondly, not everyone has the ability to visualise a garden even from the best drawn plan. Thus it comes about that while the garden designs are comparatively neglected, the various model gardens, built of the proper materials and aglow with pleasing colour, are so thronged that it is hardly possible to get that comprehensive view which alone can do them justice.

The area devoted to such model gardens, for though to a large scale—some even "life size"—models they are, is this year larger than ever, so that one wonders where all the business can spring from that can justify such great expenditure. They undoubtedly get more numerous and more ornate season by season.

The various features of the show will be found reported upon very fully and candidly in the following reports, but there is one other matter to which special attention may well be drawn. Several extraordinarily fine

than will comfortably keep them frost free. They will in winter be better in a pit or frame with heat available than in a greenhouse.

MODEL GARDENS.

The spectacular outdoor exhibits at Chelsea have hitherto resolved themselves into two classes—gardens formally treated and rock gardens. No such arbitrary division is possible this year. The rock gardens are there as usual, and a very good and representative lot they are, but the remaining exhibits represent almost every style of gardening and sometimes two or three styles merged into one exhibit.

A consistent exhibitor at Chelsea is Mr. Jones of the Horsecombe Quarries, but beyond question he has on this occasion surpassed himself. The walling is everywhere carried out, as usual, in the narrow-coursed Horsecombe stone. The garden is secluded from the Elm Tree Avenue by a wall surmounted with thatch "Zummerzettshire"-wise, and a thatched gateway gives access to the garden. Within the gateway a trickle of water is bridged, of which more anon, and then two steps up lead to a quaint but restful little formal garden of which the walls rise about 15ins. above grass level. Within them a narrow (18in.) border filled very naturally with masses of spring flowers gives a touch of harmonious colour. On the left hand a 2ft. wide border on the higher ground level with the wall top increases the effect. The old-fashioned lawn behind is adorned with an Apple tree of some size and age. Other Apple trees and Silver Birches serve to frame the garden. Fitting admirably into the general scheme, a Tudor style garden house and pump house combined (complete with pump) emphasises the note struck elsewhere. A trickle of water starts from a spring in the near left-hand corner as one enters



SUTTON'S GIANT STREPTOCARPUS.

the garden and, running round two sides of the garden, ends in a little pool. The main vista from the entrance gate crosses, beyond the garden-house, a small sunk Iris garden to end in a really beautiful wrought-iron screen of Italian workmanship. A cross vista through the Iris garden terminates at one end in a well-head, and at the other in a very beautiful and imposing sundial. Beyond these a stone seat represents all the garden furniture included in the scheme, which is as it should be.

Messrs. Bunyard of Maidstone have a really charming Iris garden, which, with Messrs. Macdonald's garden of Grasses, should be the Mecca of those whose eyes have become tired of kaleidoscopic colour. The garden is arranged on two levels, of which the outer and higher is planted with Bearded Irises and other plants, and the

exhibits draw attention to the value of well grown hardy and half-hardy annuals for conservatory and house decoration in springtime. Annuals are still insufficiently appreciated not only for this purpose—though for that alone they are invaluable—but also for the open border in summer and autumn.

At the Show their merits for decorative purposes may readily be compared with those of more orthodox greenhouse plants, and most people will find them little, if any, inferior. When it comes to "practical politics," however, the difference in cost of production is really startling. The hardy annuals may well be accommodated in cold frames in winter, while even the gorgeous *Calceolarias* need no more heat

lower, taking the form of a circular sunk garden, entirely with Irises; Bearded Irises filling all the beds except a small one around the central sundial, which is planted with Spanish Irises. Simple in design and feeling, but admirably proportioned, this garden gains much by the natural spacing of the plants, a point too often neglected at flower shows.

With a rectangular space to dispose of, such as many readers of THE GARDEN have to make shift with, Messrs. Wallace have contrived an exhibit of purely informal planting of which it is possible to speak in terms of the highest praise. From view points only a few paces apart it is possible in this exhibit to get two pictures, each perfect in its way but quite dissimilar, the one giving a glimpse through a Rhododendron dell with two wonderful specimen Rhododendrons as part of the picture, and the other with woodland shade and water, waterside Primulas and Mollis Azaleas in glorious and brilliant hues all contributing to a beautiful picture.

Messrs. Carters have a purely formal garden of which the outer borders are filled with Tulips, Anemones and Rhododendrons. Some of the pink-toned Tulips, by the way, hardly seem to the writer to tone one with another. A little sunk garden in the centre serves mainly to display an amusing novelty—a floral clock which certainly goes and is said to keep Greenwich time! It is not necessary to criticise such an exhibit from a practical point of view or one might draw attention to the turf running to the foot of the retaining walls as difficult and expensive to maintain. Substitute, however, a floral sundial for the clock and the idea would be practicable enough.

On the other side and at the bottom of the Elm Tree Avenue Mr. Klinkert of Richmond has a formal garden entirely of topiary. The garden is intersected by avenues edged with the soft grey and mauve of *Nepeta Mussinii*, and the views down these are pleasing enough, but it is as a topiary exhibit that it should really be considered, and from this point of view it is possible to speak of it with untinged praise.

The value of Polyantha Roses for bedding cannot be over-emphasised, and it is a real pleasure to see these bedded out in Messrs. Cheal's sunk garden. Among the Roses is a narrow Lily tank,

so narrow at its ends as to be practically a rill. One minor point of criticism here. Like Messrs. Carter, the Crawley firm run their turf to the foot of the retaining wall, which is hardly practical.

only for one. The consequence is that despite very carefully and well arranged stone the informal rock, shrub and water garden, because of the formal side hedges, looks somewhat suburban



A RHODODENDRON GLADE IN MESSRS. WALLACE'S EXHIBIT.

and 'pretty-pretty.' The little sunk blue garden, however, strikes a more restful note. The paved paths and pergolas leading up to these features are well arranged and particularly pleasing. Messrs. Gaze include a dry tennis court and a garden house in their exhibit.

Messrs. R. Neal and Sons of Wandsworth Common have also attempted an ambitious programme in a limited space. A miniature canal spanned by a substantial stone foot bridge leads to a summer-house absurdly inadequate to the approach. In front Messrs. Neal display a suitably arranged rockery bank.

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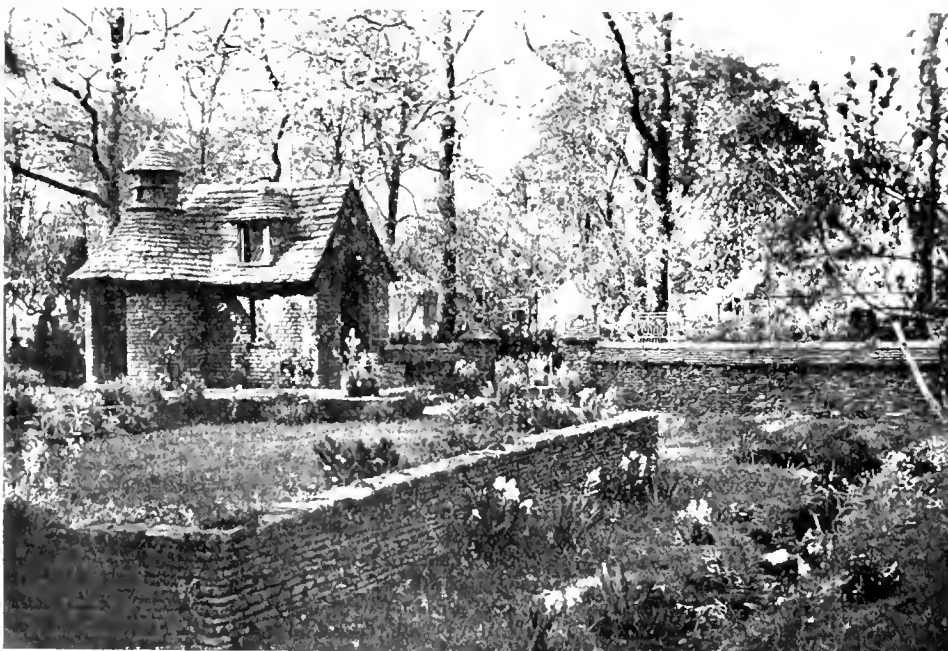
The En-tout-Cas Company display a model of their famous hard court in an agreeable setting. The court and a pleasing surround fill the centre of the exhibits beyond which a quaint little formal garden leads to a rather nice thatched wooden summer-house. *Nemesias* and *Azaleas* provide most of the colour, and white *Stocks* and *Mignonette* form an effective bank at the entrance.

Messrs. Macdonald of Harpenden have a formal garden consisting entirely of their magnificent turf and various ornamental Grasses. This is a cool and really beautiful exhibit which no visitor should miss.

Messrs. John Waterer, Sons and Crisp have an exhibit of which the principal feature is an oval sunk garden bedded with rose Tulips and *Nepeta Mussinii*. The surround to this consists almost entirely of dwarf plants of Pink Pearl *Rhododendron*. Well arranged borders of hardy shrubs and some excellent topiary complete the exhibit, which would have been improved if rectangular paving had been employed instead of "crazy."

Messrs. Kent and Brydon have a quite successful rock and water garden, marred only by the obviously rectangular outline of the space utilised. The entrance is contrived through pleasing banks of *Rhododendrons* and *Azaleas*.

Mr. Herbert Brook has an exhibit showing the practical application of stone to garden making.



A WEST COUNTRY GARDEN AS CONCEIVED BY MR. JONES.

ROCK GARDENS

Where so much and such diverse excellence is to be seen it is difficult to wield a critical pen. There is this year no rock garden which anyone need be ashamed to own. Most of them would, indeed, grace any garden.

Of Mr. John Wood's exhibit it may be said at once that it is, at any rate, the equal of anything he has built at Chelsea hitherto, and that is high praise. His scheme represents, as usual, a stretch of moorland, idealised, it is true, but still moorland. His levels and water are, as always, beautifully managed, and the planting, though by no means skimpy, is admirably restrained. His use of a huge number of splendid clumps of *Gentianella* should be an object lesson to many amateur constructors.

Captain Symons-Jenne also has a "moorland" exhibit, quite well done and more effectively planted than has been his custom at these shows hitherto.

In a more "domesticated" vein, and incidentally a more practical one, since "moorland" is not cheap to maintain, Messrs. G. G. Whitelegg and Co. have a refreshing bit of work displaying fine and well arranged masses of *Phlox canadensis*, *P. setacea* G. F. Wilson and *P. s. Vivid*, with *Aubrietias*, *Saxifrages*, *Sun Roses*, *Æthionemas*, *Gentianellas* and other suitable plants. The waterfall and deep crannied pool are exceedingly well done.

In a rather different but still practical gardening style, Messrs. Pulham's rock garden is sufficiently effective, though it lacks those beautiful ravine glimpses which give so much joy. Among a lot of excellent plants one noted *Salix alpina* (the

Alpine Willow); also a nice patch of *Trilliums*, albeit the ledge on which they were placed looked over-dry for the plants in question.

Messrs. Tucker of Oxford go in rather for the practical than the spectacular. The hardy *Maidenhairs* (*Adiantum peslatum*) by the inevitable waterfall are very beautiful. Of the admirable alpines, including many moraine plants, we shall have more to say in our next issue. One small criticism! Why plant *Silene alpestris* in the moraine?

Messrs. Hobsons of Nottingham have a rockery in a material widely different from the others, large blocks of weathered sandstone being employed. In the space allotted them little effect of depth is possible. Visitors can, by the aid of this exhibit, easily compare the advantages and disadvantages of sandstone and the moorland limestone outcrop now so generally used.

Mr. Clarence Elliott has a little rock garden mainly consisting of a low bank which would be excellent for alpine culture. Of his plants we shall have something to say in next week's issue.

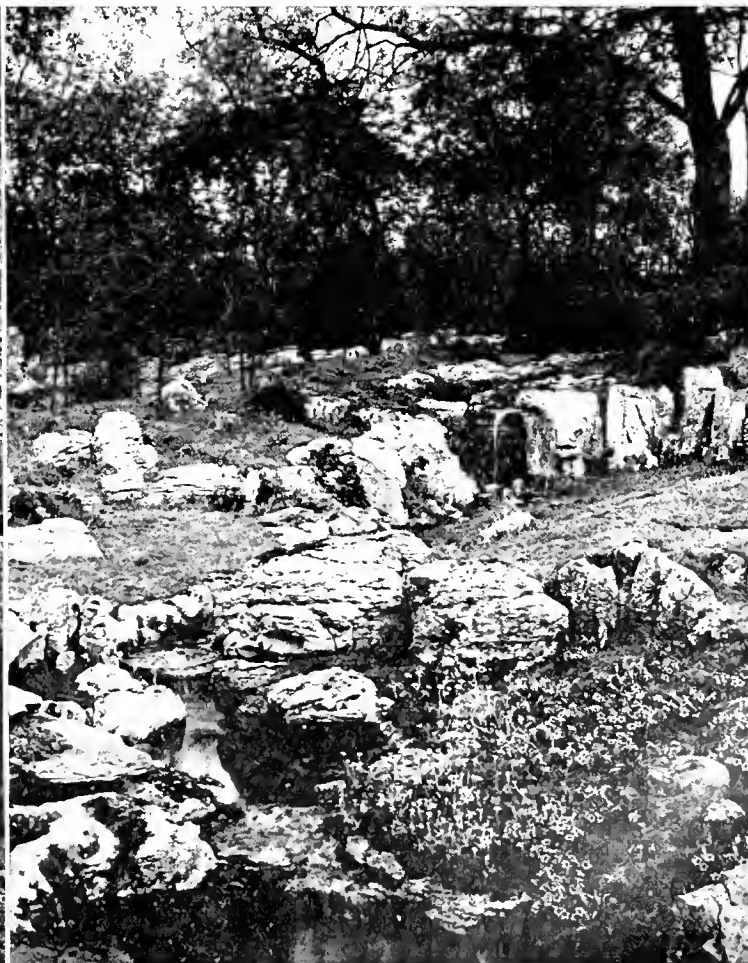
IRISES

The bearded Irises have lately taken two Continents by storm, and now, both in Europe and North America, they form one of the most important groups of all hardy garden plants. It might almost be said that the Iris has grown in popularity hand in hand with the popularity of gardening itself, but while appreciating the magnificent inheritance of remarkable flowers brought into being by the efforts of Mr. Bliss, Mr. Dykes, Sir Arthur Hort, M. Denis and Mr. Yeld, we must not overlook the value of the pioneer work done by

the late Sir Michael Foster and the late M. Henri de Vilmorin. These two enthusiastic breeders were at work as far back as the seventies of last century, the former collecting a great variety of plants from Central Asia and Asia Minor, from which many of his seedlings were derived. M. Vilmorin's early attempts, on the other hand, were mainly crosses of *I. I. asiatica*, *trojana* and *cyprina*. This, however, is not the place to trace the history of these delightful flowers now spread for our captivation, rather let us note a few of the outstanding varieties. All lovers of the bearded Iris will gravitate to Messrs. Wallace and Co.'s collection. The famous Tunbridge Wells firm have brought up one of the most brilliant collections of Irises ever seen at Chelsea, practically every flower is a gem, and they show at a glance the enormous advance made in recent years by the best known raisers of the day. One is pleased to note the much discussed American variety, *Lent A. Williamson*, said to be the finest hybrid yet raised in the United States. A noble flower of fine proportions it is; but it is in hard company, surrounded by the gems of British and French production, and we shall hardly offend our American friends if we state that it is not the best Iris of the lot. Close by are *Prospero*, a Yeld hybrid of outstanding merit; *Lady Foster*, one of the finest of those raised by the late Sir Michael; the stately *Lord of June*, a glorious study in lavender and violet; and *Crusader*, a near approach to real blue. Every one will notice the giant-flowered *Magnifica*, a Vilmorin introduction of great merit, but one of the beauties of the collection is much more modest in size and must be sought out, *Suzan Bliss* by name, and the nearest approach to pink we have yet seen in this genus. It is really a delicate



A GLIMPSE IN MESSRS. WHITELEGG'S ROCK GARDEN



ONE OF SEVERAL PICTURES IN MR. JOHN WOOD'S EXHIBIT.

lavender pink, but dainty and sweet to a degree. Phyllis Bliss, its parent, is alongside, but the colour scheme is not so delicate nor the flower quite so refined. Here, too, can be seen Dominion, Morwell, Mrs. Cowley, Sweet Lavender, Dmity, Blue Lagoon and Cretonne, a cluster of variously coloured Bliss seedlings of much merit. From the same source one can hardly omit the lovely little Sudan, of dwarf growth and bright colouring, or Dusky Maid in its quiet gown of coppery pink. Indeed, to launch out on a description of the Irises raised by Mr. Bliss alone would be something like a disquisition on the genus, and yet would leave out such giants of the race given to us by the Vilmorins, the Yelds, the Horts and the Dykeses. The gist of the whole matter is that no visitor must leave Chelsea without an exhaustive examination of Wallace's Irises.

But other Iris exhibits must also be explored. There is the unique stand of Regelia and Regelio-Cyclus Irises shown by Messrs. Whitelegg and Co., of Chislehurst, of which we have never seen finer samples. Nor have we ever seen such a lavish display of that excellent garden plant of recent introduction—Iris Hoogiana. This is probably the most beautiful and certainly the easiest of cultivation of the Regelia section and quite moderate in price. Korola, and Korolkowi Leichtliniana are members of the same section, the former raised by Mr. Dykes, and a very striking flower. Some of Messrs. Whitelegg's new Regelio-Cyclus hybrids are specially worthy of note, but it is rather difficult to get words to catch a true description of the wonderful colours depicted in these flowers. Isolda has a ground colour of old gold heavily veined and stippled with brown, Camilla, a handsome novelty, has standards of mauvy-purple and falls of cream very densely flushed and lined dark velvety purple. Thalia, again, is cream, beautifully reticulated brown, and Osiris, also new, with white standards suffused with a purple flush and netted purple black, falls white, veined deepest purple, is conspicuous. Freya, Vera and Hebe are all new introductions, while among the older ones one would specially note for their beauty Charon, Psyche and Una.

Mr. Amos Perry has, as usual, a most varied table of Irises chosen from the tall bearded, the intermediate, and the Regelio-Cyclus sections. Here, too, is a fine mass of Iris Susiana, ever attractive by reason of its strange and sombre garb. Among the Regelio-Cyclus specimens, particularly pretty are Pollux, Orestes, Jocaste and Mars. The species Iris Vaga is not often exhibited and will strike visitors as being something quite out of the common. Its dainty dress is a "Liberty" fabric in bronze, purple and lavender.

PERPETUAL-FLOWERING CARNATIONS

The whole of the north end of No. 1 Tent is occupied with one of the most remarkable displays of these popular flowers, arranged by Messrs. Allwood Brothers, Hayward's Heath. In this instance this firm have surpassed themselves in the way in which they have disposed the well grown blooms of high quality. Doulton ware, in great variety and highly artistic, is largely used, with the result that the exhibit is quite unique. This wonderful display is sure to be one of the chief attractions of this great Show, and deservedly so. The groundwork and background of black velvet accentuate the beauty of individual vases of blossoms, and handsome Palms and cut foliage add materially to the general effect. Our attention is particularly attracted to Maine Sunshine, regarded as the best yellow Carnation; Edward Allwood, scarlet; Jessie Allwood, a beauti-

ful yellow Malmaison; Wivelsfield Apricot, a free-flowering apricot—quite a new one in Perpetual Carnations; Wivelsfield White, a chaste white sort; Triumph, a good deep, rich crimson; Benora, white fancy, streaked red; Marion Wilson,

these two latter are the two largest Perpetual Carnations in cultivation.

Good quality always characterises the blooms set up by Messrs. K. Luxford and Co., Harlow, Essex. These exhibitors, like several others, suffered for



MESSRS. BUNYARD'S IRIS GARDEN.

yellow streaked red; Mary Allwood, a notable cherry salmon-coloured flower of fine quality; Eastern Maid, a heliotrope flaked sort of considerable charm, and the new salmon-cerise fragrant Wivelsfield Pink.

An exhibit of Carnations which is sure to attract every visitor's attention is that arranged by Mr. C. Engelmann, Saffron Walden, Essex. This display is arranged in No. 1 tent and is of circular form, towering up to a considerable height, only a few feet below the canvas roof of the tent. There are no fewer than six hundred dozen blooms in this fine exhibit, which comprises novelties and standard sorts, all in the pink of condition. The blooms are remarkably fresh and very bright and clean. We could not fail to notice the following sorts: Tarzan, a grand scarlet; Cream Saffron, a lovely cream sport from Saffron—a new colour; Circe, mauve flaked; Crystal White, one of the purest white sorts. There is a very fine vase of Laddie, a beautiful flesh pink sort. Nigger, a new rich crimson, is very fine. One of the coming scarlet sorts is Scarlet Iona—a sport from the latter. A new variety to be distributed next year is Surprise, a grand, soft salmon pink sort of great promise. Thor, a brilliant scarlet flower that attracts one to it is also noteworthy.

At the eastern end of No. 2 tent an attractive display of Carnations, set up in artistic fashion by Messrs. Stuart Low and Co., Enfield, calls for notice. Here are to be seen a large number of vases, stands, bowls and other receptacles, arranged on a table space in artistic fashion, with abundant foliage and dainty ferns, etc., to add to the general effect. Baskets suspended on iron standards above the group add in no mean degree to the display. We have a special preference for the following sorts: White Pearl, the disease-resisting white, of chaste character, very sweetly scented; Eileen Low, one of the best salmon pink sorts; Reginald Cory, gorgeou cerise; such choice perpetual Malmaisons as Hon. Charlotte Knollys, colour cherry red; and Miracle, cerise—

want of space, and, consequently, could not make the display they desired. They have done well, however, and are exhibiting about four dozen bronzed vases of artistic form, filled with blooms of excellent form and colour and of good quality. For effect they have added foliage plants. The better varieties are: White Benora, a beautiful white sport from the well known variety Benora; Mrs. C. W. Ward, a rich pink sort and the best of its type; Aviator, a full rich scarlet; Enchantress Supreme, still one of the best flesh pink sorts; and Coquette, a deep mauve with cerise splash.

Messrs. Bees, Limited, Liverpool, have a small table group of Carnations, perpetual and Malmaison, all interesting. Of the latter the Hon. Charlotte Knollys is to be seen in grand condition. Of the perpetual sorts, Mary Allwood, White Enchantress, Wivelsfield Claret (a rich claret) and Benora are worth noting.

Messrs. William Cutbush and Son, Barnet, Herts, as usual, stage a dainty exhibit—part of a large and comprehensive display—of Carnations. The flowers are displayed in white baskets, stands, etc., in pleasing fashion, and represent standard sorts of the perpetual and Malmaison types of the flower. The groundwork of fine foliage plants adds materially to the general effect. Of the better sorts are Renown, pink; White Wonder, white; Carola, rich deep crimson; Scarlet Carola, scarlet sport from the former; Sunstar, yellow; Circe, deep mauve; and Baroness de Bruant, deep pink. Each of these sorts call for special notice.

BORDER CARNATIONS AND PINKS

Border Carnations are represented by exhibits from Mr. James Douglas and Mr. Horace Lakeman. Mr. Douglas' flowers are, as usual, excellent. He has several remarkable new sorts on show. Of these the outstanding is Kelso, a magnificent

flower of apricot buff body colour streaked with purple grey. Others are Lombard Hills, pale canary yellow, streaked lavender grey; Dr. Connors, citron yellow flushed pink and striped scarlet; Viceroy, citron yellow, so heavily striped and margin deep wine-red that this becomes the main colour of the flower; The Cadi, a study in brown shades, being actually rose-madder, striped orange and purple; and Highland Mary, citron yellow, striped bright rose. Not new, but seldom seen on the show bench is Marajah, palest blush striped and wire-edged with crimson purple. The beautiful and fragrant Cloves are not neglected. One notes excellent vases of Crystal Clove, Salmon Clove and Claret Clove. Mr. Lakeman has excellent flowers of such standard varieties as Fair Ellen, My Clove, Lieutenant Shackleton and The King.

Border Pinks are mainly, if not entirely, represented by the *Herbertii* strain of Mr. C. H. Herbert and the *Allwoodii* of the brothers Allwood. Mr. Herbert has most of the fine varieties previously exhibited at Chelsea and some really excellent new sorts. Very noteworthy are Fire King, a full double flower of vermilion scarlet colouring; Red Indian, of almost Indian red colour; Prince of Wales, pale salmon pink, a full flower; Mrs. C. H. Herbert, in the way of the beautiful Model, but larger, a shade more salmony in hue and scarcely so perfect in form; and Juno, a very large crimson sort. Of the older varieties Mrs. G. Walker, Victory, Ruby, May Queen and the immaculate Model may be noted. A sin. pot of the purple The Imp was shown with thirty-nine flower stems, showing conclusively the free-flowering character of the strain.

The *Allwoodii* are very tastefully displayed in stone-edged beds on either flank of Messrs. Allwood's

big Carnation exhibit, also in a large circular bed displaying specimen plants. For bedding one would select Joan, rose with a deeper eye; and Vera, salmon-blush, as two of the best.

ROSES

The exhibitors of Roses are almost as deserving of the visitors' sympathy as are those who arranged the gorgeous collections of Tulips, for they have suffered nearly as greatly from the intense heat of the tents. The rosebud of the morning became a full blown rose long before midday, and in some cases did not wait for the morrow before dying. But, nevertheless, there are many beautiful blooms to be seen, particularly on the pot plants shown by Messrs. Paul of Cheshunt, Messrs. William Cutbush, and Messrs. Paul and Son.

It is the free-flowering climbing Roses that are the most effective, and of these the veritable rose garden that Messrs. Cutbush have made solely with Polyantha Roses is quite delightful. Excellent examples are also to be seen in the group of Mr. William Paul, who includes his gorgeous Paul's Scarlet Climber next to masses of the vigorous Tausendschön. American Pillar and Delight are also admirable here. In the group by Messrs. Paul and Son such Ramblers as Paradise, Ethel, Lady Godiva and The Premier are equally charming. The last named received an award at Regent's Park not long ago, and it is now fully evident that the award was justified, for it is a charming blush pink cluster Rose. Another recently arrived variety, Coral Cluster, is represented in quantity.

Pink Delight, as shown by Messrs. Laxton Brothers, with the Strawberries which tempt

one almost past endurance, is a truly delightful little single Polyantha Rose.

Many good Roses are included by Mr. Charles Turner with his fragrant Lilies; while Messrs. Frank Cant and Co. content themselves almost solely with quite a collection of new varieties, all shown in quantity, as though to illustrate how freely they bloom. Captain F. S. Harvey Cant is a fine pink Hybrid Tea variety. Mrs. F. S. Harvey Cant is a very large blush with a centre reminiscent of the old Souvenir de la Malmaison. Mrs. Alfred West, another large Hybrid Tea, is of a deep but showy pink shade of colour; while Mrs. E. Claxton is another promising pink Hybrid Tea Rose. Babs is evidently a garden Rose—the blooms are fully open early in the morning and show a decided "eye"; the colour seems to be a pale orange fawn.

Cut blooms are also shown by Mr. George Prince, who has charming vases of the dainty Madame Butterfly, Richmond, Sumburst and Melody. The two last named, as shown, are very much alike, but no one need confuse Madame Butterfly with Ophelia, a variety which some have said it is too much like.

Ophelia is shown in great beauty by Mr. Elisha J. Hicks, who also has large stands of Sumburst, another graceful variety which is popular with exhibitors in the decorative classes at Rose shows. Molly S. Crawford and an almost bewildering variety of Climbers assist in making a splendid display.

Mrs. Henry Morse is shown in great beauty as dwarf plants and cut blooms by several growers, and in Mr. Paul's group there are quite good standards, so we may safely conclude that this comparatively new pink sort is a good general



THE NEW PERPETUAL CARNATION WIVELSFIELD PINK.



A NOVEL-COLOURED BORDER CARNATION, KELSO.

utility Rose. Los Angeles, which stood the heat so well in many gardens last year, is also to be seen in excellent form; while the new Hybrid Tea Premier is also good. Of the other sorts, Florence, a new pink Hybrid Tea, and the old Prince de Bulgarie are represented by perfect blooms.

A number of the more recent certificated varieties are to be seen in an excellent collection of Roses by Messrs. B. R. Cant and Sons. These include such valuable sorts as Padre, Constance Cassoon, Covent Garden, Mrs. Oakley Fisher and the rich golden yellow Sovereign. These have all been shown in great beauty on a number of occasions during the spring, thus abundantly showing that most of the present day Roses which receive awards are general utility Roses, and as valuable for forcing for early spring decoration as for the outdoor garden.

STOVE AND GREENHOUSE PLANTS

Seldom, if ever before, have Messrs. Sutton and Sons made a display so large and comprehensive as that to be seen in the present instance. There are no fewer than twelve large groups comprising this exhibit, which is to be seen at the south-west corner of the first tent approached from the Embankment entrance. Here are to be seen hybrid Schizanthus in wonderful variety and beautiful forms, Clarkia Double Salmon, Primula obconica Salmon Queen and P. o. Scarlet Emperor, a reddish-coloured variety of great promise. Herbaceous Calceolarias, as usual, are

is arranged on the floor and is neatly finished with Ferns.

A table group of the choicer foliage plants and Cacti from Mr. H. N. Ellison, West Bromwich, is worthy of inspection. The Cacti as shown give one a capital idea of how the nucleus of a collection of these quaint plants could be easily formed. Noteworthy foliage plants are Davallia epiphylla, D. tenuifolia Veitchii, D. robusta, Cibotium Schiedeii, Platycerium Veitchii, Gymnogramme Pearcei robusta, Phoenix Robileni and Nephrolepis Mayii are just a few of the beautiful plants in this collection.

A kind of triangular group of show Pelargoniums is set up by Mr. Aubrey F. Wootten, K.C., Downs Road, Epsom (gardener, Walter Lamson). The plants are in the pink of condition and are freely flowered. We have seldom seen plants in more satisfactory condition. They reflect great credit on the grower. Some of the flowers are exceptionally large and striking, and the group edged with Maidenhair Ferns leaves nothing to be desired.

A quite unique display of Hydrangeas in the form of a circular group is that made by Mr. H. J. Jones, Ryecroft Nursery, Lewisham. Some of the blue and mauve-blue colours of the flowers are most noteworthy, while the white sorts and those of pink and kindred tones of colour are quite charming. Noteworthy pink sorts are Etincelant (lovely), Professor de Bois and Le Marne (magnificent). The blue-flowered are particularly striking, such sorts as Viscounte de Villebrugh and Mons. Ghys (mauve-blue) helping in charming fashion to make a very noteworthy

ificent series of mounds of Cineraria grandiflora, superb Gloxinias, striking herbaceous Calceolarias, fine Coleuses, Sweet Peas arranged in quaint Japanese baskets, Spanish Irises in variety, and a charming strain of Brompton Stocks, all well grown and Petunia Queen of Roses. This magnificent central group was beautifully finished with an edging of grass—a wonderful achievement—Pterises and a band of Ageratum.

Cinerarias, including stellata and cactus-flowering types, as well as their more gorgeous rival the grandiflora type, are represented in a group in No. 1 tent by Messrs. Webb and Sons, Stourbridge. These plants are quite good, as are also this firm's new giant hybrid Schizanthus. Rhodanthe maculatum is also shown. A pretty series of their superb herbaceous Calceolarias also call for notice. The group as a whole is quite pleasing.

Cinerarias in charming variety are shown by Messrs. Storrie and Storrie, Glencarse, Perthshire, in a large oval group at the south entrance to No. 1 tent. Here are to be found all types of the flower in pleasing variety and in interesting form. A notable feature is this firm's new Excelsior sun-proof scarlet strain of the grandiflora type. Grandiflora Winter Queen is a beautiful blue-edged sort. The stellata forms are wonderfully well shown, the colours being very distinct and pleasing.

An interesting feature of Messrs. Dobbie and Co.'s exhibit is a collection of dwarf, densely flowered Schizanthus and a fine Stock named Snowdrift, a cross between a Brompton and Ten Week Stock, very fine.

Much credit is due to Messrs. John Peed and Son, West Norwood, S.E., for the handsome large group of miscellaneous stove and greenhouse plants shown by them in No. 1 tent. This exhibit comprises such plants as Caladiums, Hippeastrums, Streptocarpuses, Verbenas, Hydrangeas, etc. The Caladiums are much smaller than usual, but they represent a quite large variety of the better sorts, fairly well coloured. The Hippeastrums are attractive, so too are the other plants. Palms as a background and Ferns and Moss as an edging in front make this display worthy of inspection.

A fine table group of the new Dracæna Deremensis Bausei is shown by Messrs. L. R. Russell, Limited. It is a striking plant and will grow satisfactorily in a moderate temperature. The foliage is bright green striped white down the centre of each leaf.

A splendid lot of Hippeastrums is shown by Lieutenant-Colonel Sir George Holford, Westonbirt, Tetbury, Glos., arranged on a table at the north-western end of No. 2 tent. Here are to be seen plants in superb condition, both form and colour being all that could be well desired. We were much struck with the fine quality of Chameleon, rich crimson; Harvest Moon, white ground, tinted rosy crimson; Rose Enchantress, a lovely rose; Maebeth, a monster crimson; Hymen, glowing crimson scarlet; Red Star, crimson, tinted rose; Hourii, white, slightly tinted rose, are just a few of the gems of this really exceedingly fine collection.

Messrs. L. R. Russell, Limited, also exhibit a grand bank of handsome Caladiums and other gorgeous stove and greenhouse plants, arranged in noble fashion and impressively. Three good Caladiums are Rising Sun, crimson, with dull green edging and spotted with deep crimson splashes; Mrs. L. R. Russell, one of the finest rich crimson and green, and William Rappard, another pale rosy crimson and green sort. Flora Russell, a deep crimson, is still one of the finest Caladiums. A plant worthy of special mention is Medinilla magnifica, seldom seen in flower in this country.

Hydrangeas in variety are shown in the large group of Messrs. W. Cutbush and Co.

Zonal Pelargoniums are shown in a few dozen excellent bunches by the Chalk Hill Nurseries, Reading, and these represent the better sorts.



A CORNER OF MESSRS. SUTTON'S GIANT EXHIBIT.

well shown by this firm, as are Cineraria stellata, in which the magenta colours are practically eliminated. Lobelia tenuiflora is finely shown.

A wonderfully fine group for a private grower is that which is set up by Baron Bruno Schröder, of Englefield Green, Surrey. In this beautiful group are to be seen grand examples of Schizanthus. Individual plants exemplifying the highest cultural skill are finely displayed, both form and colour being excellent. The plants have retained their foliage in most unusual fashion. Herbaceous Calceolarias, Streptocarpuses and Hydrangeas combine to make an interesting exhibit. The group

exhibit. Graceful Palms relieve the picture, and beautiful Ferns give a charming finish.

One of the largest and most attractive displays in the whole of this great Show is that made by Messrs. Jas. Carter and Co., Raynes Park, S.W. They have in this instance excelled themselves. This exhibit is disposed in No. 1 tent and consists of four circular groups of cactus and stellata forms of the Cineraria, edged with Brompton Stocks and Ferns. These four groups enclose a huge group of freely flowered plants, such as Schizanthuses, Spurred Aquilegias, grand examples of the Streptocarpus in fine form, colour and condition, a magni-

Dwarf Japanese trees in great variety and in many interesting forms are to be seen in the table group in No. 2 tent of the Yokohama Nursery Company, Limited, St. Albans, Herts. Ancient trees, said to be 150 years old, are in excellent form and condition and are a source of endless pleasure.

Zonal Pelargoniums in single, semi-double and double forms are well shown by Mr. R. J. Case, Taunton. Striking single sorts are Mrs. R. J. Case, Somerset Lad (salmon) and F. W. Penny (scarlet).

A capital lot of Zonal Pelargoniums are shown by Messrs. Jarman and Co., Chard. This exhibit forms a bright feature in a table group and attracts much attention.

TULIPS

Never before have Tulips been shown at the Spring Show in such luxuriance and beauty, and one fears that it may be many years before such a glorious feast of colour is again placed before the public. The season which has been responsible for the absence of various other flowers which are usually to be seen at Chelsea has suited the Tulips admirably.

The Old English Tulips, which it seemed only a few years ago were definitely relegated to the past and were likely to be almost forgotten, now appear to be fast coming into favour again, and small wonder when one realises their charm of marking and colouring.

In Messrs. Barr's most gorgeous and quite immense collection of Tulips of all possible sorts, the several vases of such bizarres as James Wild, Sir Joseph Paxton and George Hayward are quite delightful, but there are also many bybloemens and roses of equal beauty. In this memorable collection, which, by the way, was immensely improved from the spectacular point of view and also in educational value by the charming finish of the bordering of Irises, Trollius, Iberis, Saxifrages and many other border flowers, the vases of such May-flowering sorts among the very many, as Inglescombe Pink and Margaret and the rich yellows of Bouton d'Or and Mrs. Moon adjoining the intense scarlet of Europe, are wonderfully fascinating. The black Tulip always intrigues one, though none is really black, and among Messrs. Barr's collection are to be seen splendid examples of La Tulipe Noir, the darkest, blackest maroon of all, Faust and Kepla.

Dark coloured, nearly black Tulips are also very prominent in the large collection by Messrs. R. H. Bath, Limited, who have of this shade, Von Jehring, Gryphus and Zanzibar. Of their rose flakes and feathers, Brightness, The Minister and Milton are very fascinating. For elegance few equal Gesneriana major and Cherry Ripe.

Parrot Tulips do not flower freely in everyone's garden, but Messrs. Dobbie and Co. seem to have no difficulty and they are showing a great variety of this quaintly fascinating type which have great decorative possibilities. Café Brun, Fantasy, Markgraaf, Sensation, Perfecta and Chamoise Brilliant are the names of some of the most showy of these Parrot Tulips. In the same collection the rich yellows of Mrs. Moon and Inglescombe Yellow are most satisfying.

Those who seek suggestions for colour schemes should make a point of visiting the stand of the Anglesey Bulb Growers' Association, where in the centre they will find a most happy association of Bouton d'Or (of immense size and great quality), Prince Albert, Lord Cochran and Boadicea. The combination of deep yellow, bronze and bronzy-scarlet is perfectly delightful. Along the front of this collection there are several vases of "Baby Darwins" which are really blooms from small offset bulbs. The result is charming little blooms

which would be perfectly delightful for dinner table decoration and anywhere where small blooms are required. Baby Millet, Baby Greuze and Baby Suson are the sorts shown. But a word of warning is perhaps needed—it is not in every garden that these "miniature" Tulips can be flowered, delightful as they are when it is accomplished.

Tulips of garden value are also shown by Messrs. Rich and Co., and Mr. Alfred Dawkins. The latter has gorgeous vases of Mr. Farncombe Sanders, Ellen Willmott and the like, and they are associated with excellent Dutch Irises.

BEGONIAS

Messrs. Blackmore and Langdon, Bath, are to the front again with their wonderful tuberous-rooted Begonias. Superb examples of cultural



BEGONIA QUEEN OF THE BELGIANS.

skill characterise each individual plant. Form and colour are exemplified in the numerous novelties and standard sorts. The plants are charmingly disposed among Ferns as a groundwork, and with basket Begonias set up on standards all combine to make a glorious display. A few of the more noteworthy sorts are to be seen in Peace (a lovely cream), Mrs. J. S. Brunton (wonderful form and charming salmon-pink colour), J. W. Pymon (brilliant scarlet), Queen of the Belgians (deep salmon-pink, lovely wavy form, extra large flower), Sir J. Wilson (bright scarlet, shaded orange). The best yellow is Mrs. J. Davidson, beautiful Camellia form and, undoubtedly the best white is Nurse Cavell, a chaste sort of great purity. A deep glowing crimson sort is Grand Monarch, and a striking rose-coloured variety is to be seen in the lovely Lucy V. Toner, unsurpassed for form and beauty. In honour of the golfer, James Braid, this firm has named a beautiful crimson scarlet sort of good form and they well maintain their reputation with this handsome Begonia. The better basket sorts are Stella, a very clear deep rose sort; Edith, a blush-tinted white sort; and the light and graceful Carminea, all most useful for this work.

SWEET PEAS

About one half of the space allotted to Messrs. Dobbie and Co., Edinburgh, is occupied with a highly attractive display of Sweet Peas set up in pleasing fashion in tall stands, vases, bowls, and associated with bright green fronds of Asparagus Sprengeri. The background of black velvet adds very materially to the general effect. Conspicuous sorts are Royal Scot, a leading scarlet; Renown, charming rosy-cerise; George Shawyer, a salmon sort of splendid quality; a novelty named Fairy Queen, cream pink and very delicate colour; Kenneth, a dainty rosy-cerise and Orchid, a lavender of wavy form, of high quality. Gladys is also a lavender sort but of paler colour. The list may well include Dobbie's Orange, a standard deep orange self. The finest white in cultivation is generally regarded as Constance Hinton, and this chaste sort is to be seen in fine form and condition. There are no fewer than about thirty-sided leading varieties all worthy of careful inspection. This fine exhibit is staged in No. 1 tent on the west side.

Exceedingly fine is the exhibit set up by Messrs. Alex. Dickson and Sons, Limited, "Hawlmart," Belfast, comprising no fewer than forty of the leading novelties and standard sorts. There are at least ten thousand sprays of blossom beautifully disposed in this wonderful display, and the Sweet Pea has never before been more attractively exhibited. The staging is draped with black velvet, and the background hung with festoons and chains of Smilax. A few of the more conspicuous varieties to call for special mention are Faerie Queen, apple blossom colour on cream ground; Powerscourt, a magnificent flower of a beautiful lavender colour—two leading novelties that should be seen by all lovers of the Sweet Pea. Others are Royal Scot, orange scarlet, as exhibited; Hawlmart Cream, a beautiful cream; Tangerine, a striking orange sort; Hawlmart Pink, a lovely salmon-pink; Mrs. Tom Jones, regarded as the best of the blues; and Constance Hinton, undoubtedly the best white.

It is a great pity more space is not allotted to the Sweet Peas set up by those excellent growers, Messrs. Andrew Ireland and Hitchcock. Mr. Ireland has long been in the forefront of all that concerns the progress of the Sweet Pea, and in this case his bright, fresh and attractive Sweet Peas have all been grown in a cool greenhouse. Tangerine Improved is certainly a fine orange sort, so, too, is Mascott's Helio, a pale heliotrope sort of great beauty; Bunt, orange salmon of striking character; Royal Purple, a noteworthy purple; Hawlmart Pink, salmon pink; Shamrock, rosy mauve, a variety which gained an award of merit at Wisley last year; and Mascott's Scarlet, a new and noteworthy scarlet sort.

The table group arranged by Mr. J. Stevenson, Wimborne, is another instance in which larger space is denied, yet the display is highly attractive, being charmingly arranged. The arrangement of the flowers leaves nothing to be desired, the stands being finished off with Asparagus plumosus and A. Sprengeri. We must mention a few sorts of special merit such as Poppy, orange scarlet; Wild Rose, aptly named for its colour; Cynthia, very pale heliotrope—almost blue; Fair Lady, apple blossom colour on cream ground; and Diana, a splendid lavender variety.

Mr. Robert Bolton is treated more generously in regard to space, and in his exhibit are included charmingly arranged vases of blooms of remarkable colour, good form, and splendidly fresh. Graceful fronds of Asparagus Sprengeri add to the general effect. Courade, apple blossom colour on cream ground; Wonderful, the only true scarlet; Elsie Dene, a charming lavender,

and a charming orange self to be named, we believe, Wizard, represent four novelties of sterling merit. Standard sorts such as Picture, apricot; Gloriosa, orange scarlet; R. F. Felton, lavender; and Felton's Cream, are all to be seen in fine form.

ANNUALS

To what a large extent the annual plant modifies the design of the present day garden is reflected in the magnificent displays put up every year at this wonderful Chelsea Show. For the limited-time gardener, the lazy gardener, and the impatient gardener, the hardy and half-hardy annual can never come amiss. For the first named a sprinkle of seed on the ground, a rake over, perhaps an occasional watering, and perchance a thinning out, that is the time expenditure for a crop of flowers. The lazy gardener delights in the annual because it saves him from the more complex phases of herbaceous and perennial cultivation, while to him of scanty patience it is a veritable inspiration, cutting out entirely the long wait of many months, or probably a year or two, for the floral beauty which is the goal of all gardeners' desires.

But to get the best even out of annuals demands a qualification of this philosophy. Spring sowing and a few weeks growth will not produce specimens of Clarkias, of Schizanthus, of Nemesis, or of Mignonette, such as we see staged here by such experts as Messrs. Sutton, Messrs. Webb, Messrs. Carter, and Mr. Alfred Dawkins. These proud pyramids of bloom represent single plants raised from seed last autumn and cultivated with care and forethought throughout the winter months, particular attention being given to potting on just as the root system demands. It is this building up and encouraging of strong growth underneath the soil before the foliage makes such headway that ensures a specimen plant capable of responding to good culture with a lavish wealth of flower.

Messrs. Sutton and Sons of Reading have surpassed themselves this year and that is surely high praise. For 170ft. in the west tent their display extends in bay and promontory, a continuous pageant of changing colour. Here a tall background of Lavatera "Loveliness" (pure deep pink), forms a fine setting for white and pale pink Cineraria stellata, bordered by white Primula obconica and pink Nemesis; there, towering plants of Salpiglossis, a superb strain this is, give elevation to a charming bed of large-flowered Schizanthus, fronted by the annual Phlox Fireball, whose vivid crimson contrasts nicely with its own foliage of vivid green. Further on a huge bank of Cineraria stellata, blue and white shades, is used as a foil to a foreground of Dimorphotheca aurantiaca, mingled with semi-tall and dwarf blue Lobelia. This gives an excellent hint for summer bedding. In other parts of this great stand Schizanthus in endless variety of colour are effectively grouped, while Clarkia "Salmon-Scarlet" is conspicuous as towering pillars of warm tones against the cooler shades of Schizanthus and Nemesis Suttoni. The variety of the last mentioned, called Aurora, should be noted as an edging plant for taller things.

Messrs. Carter of Raynes Park, will attract the attention of the multitude with a large and beautifully planned exhibit occupying some 2,000 square feet in a central position of the great eastern tent. The pivot of this ambitious scene is a tall pyramid of well grown Clarkias surrounded by equally well cultivated Schizanthus in pots, mixed with the new Dutch strain of Spanish Irises, the lavender tones only being employed. Surrounding this are bold masses of large-flowered Cineraria Brilliant

Prize. In the same scheme and forming a circular island bed is a group of annual Delphiniums in which some pretty lavender shades mingle with the typical blues. The whole exhibit is buttressed at the four corners with solid mounds of Cineraria stellata and cactus-flowered alternately. Between these it is worth noting the bedding effect of white and crimson Brompton Stocks and a fine pink variety called Empress Elizabeth.

Messrs. Webb and Sons of Stourbridge make the most of a rather restricted space by putting up fine breadths of Cineraria in various shades and well bloomed plants of Schizanthus. One might almost call this a Schizanthus year, for they form the *pièce de résistance* of quite a number of the stands devoted wholly or partially to annual flowers. Those shown by Baron Schröder reflect much credit on Mr. Henderson, under whose able guidance they are grown, a particularly notable variety being a pure white of excellent bedding habit, requiring no pinching or training, as it grows dwarf and branching quite naturally. This



MESSRS. LAXTON'S STRAWBERRY, SIR DOUGLAS HAIG.

one is called Bridal Veil, and comes true from seed, a valuable acquisition.

Another excellent collection of these plants is staged by Messrs. Godfrey and Son of Exmouth, who have used quite small pots, none of them exceeding 5ins. in diameter, yet the flowers are as large and as beautifully coloured as any in the Show.

FRUITS AND VEGETABLES.

It has been said by a few "highbrows" that there is only a sheet of brown paper between Calcutta and a certain other place—there appears to be no limit to Cook's Tours these days. However, Chelsea might also be placed in the same category. Imagine a poor reporter working all day under canvas in a temperature about 100° Fahr.!

In one of these tents Messrs. Bunyard and Co. have a wonderful collection of Apples. The colouring and the general condition of the fruits emphasise the long keeping qualities of the different varieties, given proper conditions. After the terrific drought of last year it is really marvellous that these fruits have kept so well. There is no secret regarding their storage. Messrs. Bunyard

after a great many years of experience find that the best plan is simply to wrap each fruit in paper and place it in a box. Cold storage is unnecessary—a cellar or shed answering the purpose quite well.

As regards varieties, Allen's Everlasting is said to be one of the best for this time of year. The fruits are very firm and wonderfully coloured. Other well known sorts include Lord Derby, Bramley's Seedling, Bess Pool, Encore, Winter Queening, Adam's Pearmain, Wagner (very fine), Annie Elizabeth and Orleans Reinette. There are, besides those mentioned above, many beautiful fruits which are not quite so well known.

Messrs. Bunyard are not quite so well congratulated on their exhibit, which appeals to all who see it.

Messrs. Rivers have a fine exhibit of Peaches and Nectarines. Although the fruits are not so highly coloured as they usually are at Chelsea, they are excellent, taking into consideration the very late season. Among Peaches Duke of York is very conspicuous, and another good variety is Duchess of Cornwall. The best Nectarine un-

doubtedly is Cardinal, while their new variety, John Rivers, if looks are anything to go by, appears to be a good thing and should prove a great acquisition to this most desirable class of fruit.

The only exhibit of vegetables comes from the Hon. Vicary Gibbs (gardener, Edwin Beckett). The exhibit is typical of Aldenham and leaves nothing to be desired. Here are to be seen vegetables of the very highest quality, including Celery Aldenham Pink and Aldenham White, Pea Early Giant, Asparagus Perfect, Cucumbers Every Day and King George, Potatoes, Mushrooms, Tomatoes Golden Perfection (very finely coloured) and Perfection, Cauliflowers, Turnips and Mustard and Cross.

From Laxton Brothers come some delicious Strawberries which ever tempt the poor reporter to "pick and steal" the delightful, fragrant fruits. Their new Strawberry The Duke is the principal variety, and is likely to oust Royal Sovereign. The fruits are of good size, highly coloured and fragrant. Other notable varieties include Marshal Foch, a good maincrop variety; Lord Beatty, a large variety of excellent flavour; and that excellent forcing sort Sir Douglas Haig.

In next week's issue we shall publish detailed comments on Trees and Shrubs, Herbaceous and Rock Plants, Orchids, and Garden Sundries, with descriptions of noteworthy New and Rare Plants.

FIGHT THE BATTLES OF YOUR PLANTS

Plants and vegetables are constantly menaced by vicious enemies. The gardener must wage war upon them, the plants themselves are helpless.

HAS every garden owner got this idea fixed in his mind? He loves his plants, and grows his crops for the joy of growing them; can he therefore tolerate the thought for one moment that the well-being, maybe the very life of his plants, may be jeopardised if he neglects or even delays the use of weapons of destruction of insect pests? The season of quickened activity in the vegetable world is also the season of rapid multiplication of insects, both creeping and winged, and the tender young shoots and fresh young leaves of spring growth suffer accordingly. The power of an insecticide is very largely governed by the time at which it is used. Will my readers kindly read that sentence through again? It is the gist of the strategy that must govern our warfare against plant enemies, and in the great majority of cases the best time to use insecticides is when they are expected to appear on the scene rather than after their actual arrival.

For instance, the leaf-rolling aphid if it has troubled us in the past may be expected very shortly after young foliage is formed. If we wait until curled-up leaves indicate the presence of the pest, we have little chance of expelling him from his snug little home, because not only are the leaves rolled in such a manner as to render it extremely difficult for sprays to enter the interior channel, but that channel is screened by a fine film of water-resisting web or adhesive substance that isolates the aphides in a well secured strong room. Here, then, is one instance where the time of application of even the most efficient sprays makes a world of difference in results, and if I dealt at length now with spraying for leaf-rolling aphid I should expect those who started spraying forthwith to say, "There's not much in spraying."

It is quite a different story when we come to such pests as the caterpillars of the vapourer moth, the blister moth, the Currant sawfly, and a good many varieties of weevils that attack either fruits or vegetables.

Just at this season of the year it is possible to oust these chewing and gnawing vagabonds either by actually slaying them with what is known as a "direct contact" insecticide or by rendering the foliage of their host plant poisonous or so distasteful that the insects are glad to quit.

Direct contact insecticides are very effective provided in the first place they are accurately prepared and held in perfect suspension—they are not, generally speaking, truly soluble—and in the second place that the insects are get-at-able. Most of the random selection I named above are easily hit by a spray ejected by a good syringe or spraying machine, and we may consequently go at them with a good summer spray fluid. Here I am, as it were, between the devil and the deep sea. I want my readers to obtain information, and I know the question arising in their mind will be, "What do I recommend as a good summer spray fluid?" If I quote Messrs. So and So's speciality, I get some rude question asked me as to what my recommendation costs a firm, and some competing manufacturers write wrathfully to the Editor protesting that their speciality is equally efficacious. I might give recipes and advocate making insecticides at home were it not for the fact that I do not approve and never have approved of gardeners pottering about

with chemicals that want skilful handling and special equipment. An ill-balanced or carelessly mixed insecticide may easily be capable of working mischief instead of benefit, and then what happens? The blame is not connected with the blunder of the amateur dispenser, but is attributed to the bad teaching of the writer.

Yes; all things considered, I feel I am on the right track when I adhere to the view that the general gardener or amateur will be best advised to buy his insecticides ready made, and he will find good direct contact sprays in Katakilla, Kilzall, Abol and other brands of similar character. It must be borne in mind that anything that has acid, caustic or penetrating properties must be used with extreme caution if plants or trees are in active growth and young leaf. Poisons that will destroy insects may be quite safe as far as most foliage is concerned, and my faith in nicotine remains unshaken. I find that both under glass and in the open I can rid plants of caterpillars, weevils, aphides, and check the ravages of woodlice, earwigs and slugs by mixing up a soft soap solution and dropping a few spots of nicotine as used for vaporising into each gallon. Arsenate of lead wash is much used for fruit tree spraying, for a whole host of caterpillars, hoppers and small chafers. It is a spray that wants using with some care, and I would only recommend its use where a good powerful sprayer with a well made fine nozzle is available.

Ever so much trouble would be spared and ever so many plants would be kept in better condition if more attention was given to spraying before any trouble appears, using just a cheap, harmless mixture of quassia and soft soap. This has no dangerous elements and can be used on all except salad vegetables, its purpose being to make the foliage distasteful to insects. Moths and butterflies will not lay their eggs where there is a taint of quassia. Emulsified petroleum is also very serviceable for the same purpose, but to use ordinary lamp paraffin may cause trouble if not kept in perpetual suspension. Herbaceous plants, Roses, Calceolarias, Enonymus, Beans, Celery, Chrysanthemums, Dahlias and even Potatoes may well be sprayed with these mild insecticides, for be it noted if Potatoes are allowed to suffer from attacks of aphid they are very prone to collapse when later on they are sprayed with Bordeaux mixture to ward off blight (Phytophthora infestans).

At this season of the year plants under glass must be very carefully watched. As the sun gains power the temperature inside a small greenhouse rises rapidly during the forenoon, and if a plant should happen to droop for lack of water it is almost bound to fall victim to some insect pest, for the tropical atmosphere encourages them to breed at a terrific rate. White fly is an awful scourge. It matters not whether one grows Tomatoes, Fuchsias, Salvias, Primulas or any one of a score other subjects, white fly, if once it appears, multiplies until it comes in cloudlike masses, and the foliage of everything becomes horribly misshapen. Cyaniding is certainly an effective method of dealing with the pest, but cyanide wants very careful handling.

I have tried many things, but nothing has served me quite so well as Gassonite sprinkled over a damped floor at the time the ventilators are closed down in the evening. It is cheap, easy, safe, and if repeated at intervals of a fortnight

or so it will dispose of each successive host of flies as they are hatched.

Red spider would not give half the trouble it does among Vines, Cucumbers, Carnations and other greenhouse plants if attention was more carefully given to the maintenance of atmospheric moisture. Again, there is the case of Violets that have been producing a harvest of bloom in frames; now that the flowers are over the plants should not be left just to take their chance, but, if the weather is at all hot, should be syringed daily. Red spider cannot make much headway when constantly brought into contact with water.

A. J. MACSELF.

THE THINNING OF SEEDLINGS

Thin gradually and before the plantlets become drawn.

A GENERATION ago there was an old saying, "sow thickly and thin early." Such advice might be good when seeds were not as reliable as they are to-day. In these days very thick sowing would be a mistake. Taking plants from seed generally the seedlings require very severe thinning even after moderately thin sowing. With the exception of some of the rarer species and varieties, the great majority are sown too thickly, especially in boxes, pots and frames where space is strictly limited. I dare say hundreds of readers of THE GARDEN have already taken the required number of seedlings from the boxes of many kinds of plants and still have more left in the boxes than they took out. Of course, it is very nice to have a surplus of seedlings, but undue crowding makes all weakly to begin with and then valuable time is lost in strengthening those retained.

Hardy annuals from seeds sown in the open border should be carefully examined from time to time and the necessary thinning-out done gradually, so that after the final thinning the plants retained will have ample room in which to grow sturdily, keep an upright form and bear flowers of great substance. Weakly plants are never satisfactory.

Turning now to vegetables, Onions and Carrots more especially are often allowed to remain in very crowded state until the plants are quite large before any thinning is attempted, which is a great mistake. Others are gradually thinned so that the drawn seedlings may be used in the kitchen. This is a sound practice, provided the final thinning is not left until too late a date as, when this happens and a dry spell of weather follows, the matured crop is not quite satisfactory, even if wireworms and other pests do not attack the young plants. All seedlings not required should be drawn out while the soil is in a moist condition and immediately afterwards the rows of plants should, in the absence of rain, be watered through a rosed watering-can. A good hoeing of the soil between the rows should then be given as soon as it becomes dry enough, and a light application of soot, broadcast, will be beneficial.

If Onions are required for household purposes solely, thin to 2 ins. apart, Carrots to 4 ins., Turnips to 6 ins., Runner Beans to 8 ins., Parsley to 6 ins., Beet to 6 ins. It is very rare, indeed, that one sees Parsley thinned-out at all, but it pays to thin this crop well. Three plants in 10 ins. or so will yield finer and more bulky leaves than sixteen in the same space. Many gardeners think a little "drawing" does no harm. Never was there a greater mistake!

G. G.

CORRESPONDENCE

THE SCENT OF "HEAVENLY BLUE."

THERE are doubtless several "Heavenly Blues" in the nomenclature of garden plants. There is, for example, Heavenly Blue *Lithospermum*, but, such has been the popularity of the introduction, the best known is almost certainly the Heavenly Blue Grape Hyacinth. It is grown in countless thousands. Generally speaking, it is found in longer or shorter lines as edgings for beds or borders, or in the last named in clumps of greater or lesser extent. Occasionally we come across a large mass occupying a single bed. It is then that its wonderful scent can best be sampled. Those who stood beside such an one in that sudden warm interlude of May 8 and 9 will know what it is like. Some people say it reminds them of cloves. Some that it recalls the incense-like scent of *Matthiola bicornis*, the Night-scented Stock. Others simply describe it under the vague generalisation of spicy. There may be others still who are unaware that it has any smell at all. Let all such gather a handful and put them in a vase and leave them in a warm room. They will realise what it is then, and if they are of the same opinion as the writer, the first gathering will not be the last. Incidentally, it may be mentioned that their scent is an easy way of distinguishing Heavenly Blue from *Muscari botryoides*, the ordinary Grape Hyacinth, which when it has become established in a position that it likes is not always readily distinguished from it.—MÆLOR.

THE YELLOW CROWN IMPERIAL.

THE opprobrious epithet of Stink Lily, by which the Crown Imperial is known, does not lessen its claim to being classed among the best of early-flowering hardy plants. In support of this claim I may mention that there is, within view of where this note is made, a bold, irregular-shaped clump of the yellow variety, *Fritillaria imperialis lutea*, carrying about seven and a half dozen flower-spikes, the telling effect of which will be realised by those knowing this Lily; while, in addition to the drooping bell-shaped flowers, the smooth shining foliage is also attractive when closer inspection of the group is made. This plant will grow and flower in sun or shade, a sunny site giving one or two weeks earlier flowering. A border of shrubs will afford positions giving partial or total shade, as the case may be. The question has often been raised as to whether frequent replanting of the bulbs does or does not conduce to freer flowering. I incline to the "let alone" practice, in support of which may be cited the plants growing here, of which the clump referred to above has not been disturbed for, probably, ten years. On the other hand, a smaller colony was dug up about two years or so ago and replanted separately. Most of these are now flowering, which shows the Crown Imperial to be a plant quick to re-establish itself where conditions are favourable. The soil in which these Lilies grow is on the light side; indeed, it is inclined to be sandy, but at a spade's depth or so it is of somewhat heavier texture.—C. T., *Amphull*.

THE YELLOW BANKSIAN ROSE.

LAST year one of your correspondents drew attention in your columns to the early flowering of the Yellow Banksian Rose. Your readers may like to know that here (West Horsham) on the south wall of my house the Yellow Banksian came into bloom on Friday, May 12 remarkably early in what is a backward season for nearly everything in the garden.—J. C. F. M.

SPANISH GORSE.

THE so-called Spanish Gorse, *Genista hispanica*, is, in my opinion, a strangely neglected dwarf shrub. If planted in clean, not over-rich soil and in a position where it gets all possible sunlight and heat it proves hardier than many shrubs much more often seen in gardens, and if in an exceptionally hard winter—we have had none of late years—it gets cut, it is very seldom that it fails to shoot again from the base. For certain effects in garden planting its low mounding habit of growth is invaluable. It may be used at the margins of shrubberies, in the rock garden—where isolated specimens are often most effective—or in the wild garden. Wherever used it provides furniture throughout the year, and yet it is not, strictly speaking, evergreen, but the quantities of deep green stems and prickles are as effective as leaves. The blossoms, which at the time of writing (May 16) are almost at their best, are of a

short-lived and lose their stamina very quickly, and must be kept going by being continually raised from seed. Not many, I fancy, ever think of doing this. Hence *Fosteriana* and *ingens* are here to-day and gone to-morrow; *dasystemon* is quite different. It does not resent captivity and is a splendid doer. It has not the gorgeous magnificence of those Tulips which I have just named, nor their height. Not that they can be considered tall compared with the towering Darwins. Half a dozen inches is the measure of its stature, and its pretty white and yellow flowers, which are usually borne from two to four on a stem, are the personification of quiet beauty in their rather uncommon colouring of yellow and white. The great pure yellow centres with the ends of the petals pure white always have reminded me of that bright little annual *Limnanthes Douglasii*, whose colour arrangement I read the other day was described by no less an authority than Mr. Fraser, our new V.M.H., as altogether out of the ordinary. I suppose it is, but I never realised before that it was for the simple reason



THE SPANISH GORSE, *GENISTA HISPANICA*.

deep golden colour and are borne in clusters of a dozen or so in a manner reminiscent of the true Gorse. It may be well to make clear the distinction between this plant—the Spanish Gorse—and the Spanish Broom, or Rush Broom, as it is also called (*Spartium junceum*), another valuable golden-flowered shrub, but summer flowering and as different in habit of growth as one shrub can be from another.—G. HARVEY.

A BEAUTIFUL TULIP SPECIES.

THE charming little *Tulipa dasystemon* is one of the comparatively recent introductions from Turkestan. From a quotation in Bailey's *Encyclopædia* it rather astonished one of the first people who cultivated it by flowering a second time as well as it did the first year after its importation from mid-Asia. What would have been that person's surprise to find it flowering equally well year after year, and not only flowering, but setting seed and sowing itself "all over the place." It is not every Tulip species that does this. So many are very disappointing when they are caged up in a Western garden. Perhaps they are by nature

that, in times gone by, my garden was overrun with it, and familiarity breeds contempt. There is a third flower which may be put in this small and select class. It is a *Sparaxis* called *Angelique*. In the warm sunlight it might for all the world be *dasystemon* on stilts. *Tulipa dasystemon* is not only a gardener's flower, it is also of special interest to the botanist, as the arrangement of its central organ is unlike what we find in most Tulips, inasmuch as there is a distinct style to the pistil and so the stigma does not sit directly on the ovary. Hence it finds itself relegated to a small sub-division of the genus *Tulipa* called *Orithyia* whose members, until the advent of *dasystemon*, were all looked upon as garden Cinderellas of the Tulip family. I rather think a very rare British plant, *Lloydia serotina*, must be nearly related to it.—JOSEPH JACOB.

THE MOSS ROSE.

I AM not surprised that Major Hurst's scrappy and very questionable notes on the Moss Rose, which appear in "The Rose Annual" for 1922 should have attracted the attention of "J. J."

The question raised by the latter can easily be answered. Was there, as Major Hurst states, a Moss Rose in 1606? Upon the evidence submitted for the reader's consideration the answer is absolutely and without the slightest qualification a negative one. Major Hurst bases his supposition, for it is nothing more, on the following ground, and I will quote his own words: "But this is not the earliest date recorded for the Moss Rose, for in a rare little book entitled "L'école du Jardinier fleuriste" Fréard du Castel of Bayeux (1746) states that the hundred-leaved Moss Rose was in cultivation in the North West of France at Cotentin, Bessin, and a part of the littoral of La Manché in 1746; and that it was brought there by him from Carcassonne in the South of France, where it had been known for half a century (1606)." Major Hurst has evidently made this statement on some other authority than "L'école du Jardinier Fleuriste," and there is no wonder that "J.J." cannot find any reference to the Moss Rose in his copy. I cannot understand how it is that "J. J." says "the edition in my possession is dated 1746, which is the identical one from which Major Hurst quotes." The first edition of "L'école du Jardinier Fleuriste" bears on its title page the date in Roman numerals thus: M.DCC.LXIV. I cannot make 1746 of that, but 1764. The book was published anonymously, Fréard du Castel being only the reputed author. The writer nowhere mentions the Moss Rose in that book, nor does he mention any of the places referred to by Major Hurst, either in the North-West or in the South of France. The reference to the flower having been grown for half a century in or near Carcassonne is not contained in this work as quoted by Major Hurst. There is only one purely French floricultural book known to me as having been published in 1746, and that is the Père d'Ardène's treatise on the Ranunculus. Major Hurst's notes must have got mixed for such a substantial blunder to have taken place. The facts may be true, but so far as the authority quoted is concerned, the whole story is apocryphal.—C. HARMAN PAYNE.

COLOUR AND PLANT LIFE.

INOTE that Mr. George Garner in his article on "The Shading of Greenhouses," in THE GARDEN of May 13th, writes that for Ferns and Palms a permanent green shade is best for the summer months. I take it that by permanent he means a shade which cannot be rolled up and down like a blind but remains fixed all through the warmer months, whether the day be clear or cloudy. Mr. Garner expressly limits the use of such a shade to Ferns and Palms, and they would certainly be less liable to injury by the use of it than other classes of plants. In these days when labour-saving is a great consideration anything which economises time gains importance, but it must be remembered that the permanent green glass shading was removed from the great Palm House at Kew and also from the Fern houses. These last named were glazed with a much deeper tinted glass which was found to be positively injurious and removed (see the *Gardener's Chronicle*, November 26, 1892). A short digest appeared in THE GARDEN early in 1919 from the Rev. G. Henslow's paper on "Some Effects of Growing Plants Under Glass of Various Colours," which was read at a meeting of the Scientific Committee of the R.H.S. and published by them, and the editorial comment was that "the important point for practical gardeners to observe is to avoid the use of green colouring matter when summer-clouding their plant houses." Experiments showed that not only did the green screen cut off a certain amount of heat, but the more important rays, which are required for assimilative purposes. Plants grown

under green glass were actually found to lose weight of dry substance though there was an increase of water. A plant appears to be green because it *absorbs* the other rays which make a white Solar light, but rejects these green rays. To an animal oxygen is life and green restful; to the plant oxygen is largely rejected and the colour green poisonous. It is a very remarkable thing that in some lights chlorophyll appears to be blood red, and it fluoresces with a red light. We speak of our green lawns, but if we look at them through purple glass, which cuts off the green rays from the eye, they appear red. This chlorophyll or leaf-green is by no means a simple green colour screen, and "no advantage seems to have resulted" from the use of a green pigment to quote Dr. Lindley (see page 300 in his "Theory of Horticulture").—H. H. W.

IRIS—FLEUR DE LUCE.

Flower of light! who gave thee first that name
Saw clear thy flower soul through purple prism bars.
Lifting thy threefold standard to the stars,
Poised, perfect, still,—like an arrested flame,
A carven prayer all luminous, thou art
Part human flower and winged Archangel part.

Flower of light! Fair prism that disparts
But to remake the Sun's too sovereign light,
Tempering his blinding, incandescent white
In Iris colours to our human sight,
Filling with uncommunicable joys our hearts:—
As the arched splendours of God's rainbow, blent,
Make the white glory of His Firmament.

Flower of light! Emblem of Hope, that calls
With lifted arms to Heaven, but still lets down
The curv'd beauties of thy triple gown
To Earth: as we too, reaching to a crown
Hold fast to human love, so thy soft velvet falls,
Emblem of Faith and Hope and Charity
That, rooted still in Earth, still clasp Eternity.

Flower of light! All colour and all form,
The very Curve of Beauty, in thee dwells,
Not even the multitudinous Sea and all its shells,
Whether in halcyon calm it laughs, or swells
Magnificent in mountain-billowed storm,
Shows curves like thine, so carven yet so free;
Nor Phidias knew, nor could Apelles see
More perfect form or colour than in thee.

Flower of light! Who knows if fables old
First gave Olympus' messenger thy name
Or gave thee hers;—but this I know—there came
Down the arch'd bow in multicoloured flame,
To star our Earth with purple and with gold,
Thy beauty;—for a breath of Heaven yet clings
About thy robes, and thy translucent stillness brings
Faint Seraph songs, half heard, and winnowings of
wings.

W. H. W. BLISS.

ROSE LA FRANCE UNDER GLASS.

ITHINK it might interest your readers to hear of a wonderful La France Rose tree I have in one of my smaller greenhouses. This tree begins blooming in March and goes on for many weeks. This season my gardener has cut over three hundred blossoms off it, and this number is about the yearly average since the tree began blooming about eleven years ago. The gardener tells me he cut the first Rose this year on February 24, and he cut the last on May 12. We give the tree no artificial heat, but it is well pruned back every season after flowering ceases, and given bone meal in the autumn and liquid farm-yard manure occasionally. I can highly recommend this good old variety of Rose to anyone who wants lovely fragrant blooms in early spring.—FLORENCE E. HENDERSON.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Brussels Sprouts.—The plants from an early sowing under glass pricked out and grown on as advised in a previous issue will now be strong enough to place in their permanent positions. A fairly rich well worked piece of ground should be allotted this vegetable to get a heavy yield of buttons. Plant firmly in rows a yard apart for the tall-growing varieties and 6 ins. less for dwarf ones, and allow corresponding distances from plant to plant in the rows. Choose, if possible, a dull or showery day to get the work done.

Chicory.—Where this vegetable is required seed may be sown now in an open situation having a good depth of soil but not necessarily recently manured. Draw the drills from 15 ins. to 18 ins. apart, and thin the seedlings from 6 ins. to 9 ins. apart.

Haricot Beans are a most valuable winter food and well worth some good ground. The sowing and subsequent culture is similar to that afforded to dwarf French Beans with the exception that the Haricots are not gathered in the green state but allowed to develop fully and ripen to maturity as a seed crop. Among several to choose from I know nothing better than the Dutch Brown.

Cucumbers.—Excellent crops of Cucumbers can be grown in frames for the next few months. Frames that are cleared of early Potatoes, etc., are suitable for this purpose. Naturally, better results will be obtained if a little fresh hot-bed material is introduced to give the plants a start, but quite good crops can be secured by merely digging over the frames, at the same time working a little artificial manure in and planting out at once.

The Flower Garden.

Spring-flowering Plants.—The majority of these are several weeks later passing out of flower this season, and will therefore delay the replenishing of the beds with the summer occupants. Where the bulbs of Hyacinths, Tulips, etc., have not completed their growth at the time of lifting they must be laid thinly out in trenches of ashes or soil until they have done so, and then lifted again and spread out thinly in a cool, dry, airy shed. Roots of Polyanthus may be divided and planted out on a cool border in rows a foot apart. Aubrietias and Arabis can be easily increased by cuttings, which will root readily in sandy soil in a cold frame. The former are also easily raised from seed sown now, and this is a very easy way of getting a quantity together where it is not essential each plant must be true to colour. Forget-me-nots when lifted can be planted somewhat thickly together on a spare piece of ground which has several inches of light sandy soil on the surface, and there will be an abundance of material for pricking out later on. If possible, it should be arranged for the beds to be dug over and left a few days after removing spring plants before they are again filled up with fresh stock.

The Hardy Fruit Garden.

Raspberries.—Remove all superfluous and weakly growths, retaining sufficient only for fruiting next season. The removal of unnecessary shoots must be done carefully or injury will be done to the feeding fibres of this season's fruiting canes. The spaces between the rows should receive a light surface hoeing to keep small weeds in check. Should no mulch have been given, it should be done now, especially on light land. If no manure is available, throw some lawn mowings and leaves together for a few days and let this be used as a mulch.

The Strawberry Bed should be properly weeded before bedding it down with some bright straw in readiness to keep the fruits clean. At the same time all netting arrangements should be carried out.

Fruit Under Glass.

Early Peaches and Nectarines.—Owing to scarcity of sunshine it is as a rule more difficult to obtain a good finish in appearance and flavour with the above than with the mid-season and late fruits. Much, however, may be done in reaching these ends by careful and practical management. An important aid in obtaining flavour, particularly so when there is a lack of sunshine, is to see that the hot-water pipes are never allowed to become cold day or night. By

this means a circulation of air may always be kept on the house, and a fairly warm, buoyant atmosphere is of the utmost importance in giving flavour. Warm moving air aids also greatly in giving a good colour to the fruits, especially when they are exposed nicely to the light and lateral growths not allowed to check it. The condition of the roots is also of immense importance, and although it is fatal for the roots to suffer from dryness until the fruits are fully matured, it is directly harmful to give a lot of water to any tree approaching ripeness. Arrange rather for all copious waterings to have been given before this stage is reached. H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Turnips.—Make further sowings of the Milan type so that nice fresh roots may be ensured. Thin early sowings as required and keep the Dutch hoe going between the lines, and in this way encourage a quick yet vigorous growth.

Kidney Beans.—The main crop of these may now be sown without danger of late frosts affecting the plants. Choose a light and friable piece of ground which has been well manured during the winter period and sow in lines 18 ins. apart. Thin freely to about 8 ins. when the rough leaves appear.

Runner Beans.—These are less hardy than the dwarf sorts, but may also be sown now. The rows should be at least 5 ft. apart, as when grown too closely the crop is considerably diminished. It always pays to give ready support by stakes or strings immediately the plants are a few inches high. In many gardens climbing Beans are grown on tripods made up of three very tall canes, and when arranged thus at regular intervals by the sides of paths the result is both effective and remunerative.

Peas.—Numerous sowings should be made now to provide late crops. The Gladstone and Autocrat are two excellent sorts for late work, both being of robust constitution and producing large pods with Peas of excellent flavour. Attend to the staking of earlier sowings as required, and mulch with half-rotted manure crops that may be growing on light or gravelly soils.

Potatoes.—Fork the soil between the rows and give a light dressing of Potato manure immediately before earthing up. Nothing responds more readily to generous cultivation than the Potato. When growth is vigorous the plants are less liable to disease, with resultant increase of crop.

Saladings.—Keep up a succession of Lettuce, Radish and Mustard and Cress. Also transplant previous sowings of Lettuce into suitable quarters. To produce the desired crispness in Lettuce the crop should be grown quickly and receive copious waterings during dry weather.

Spinach.—Make further sowings of this vegetable on a cool part of the garden, preferably on an east or north border. When sown in this position the crop does not run so readily to seed during hot weather. A sowing of New Zealand Spinach should also be made now, but a warm and dry position should be accorded this variety.

Seakale. Examine new plantations with a view to disbudding, leaving one strong crown to develop.

The Hardy Fruit Garden.

Wall Trees, such as Peaches, Nectarines and Plums, will greatly benefit by a good syringing each day during fine weather. See that newly planted trees do not suffer from lack of water at the roots. A goodly mulch of partly rotted manure will prove beneficial and prevent over-quick evaporation.

Raspberries.—Suckers are now pushing up freely around the parent plants, so should be reduced to the quantity required for next season's fruiting.

Fruit Under Glass.

Mealy Bug on Vines.—Unfortunately in many establishments where the vineries have to be utilised at certain periods for plants mealy bug readily finds its way into the structure, and when this pest has obtained access it is a difficult business to eradicate it, no matter how thoroughly the work of cleaning during the winter has been done. A sharp look-out should be kept for the bugs, and if touched with a small brush dipped in methylated spirits it will check their career sufficiently to save the bunches from becoming infested.

The Flower Garden.

Bedding Out.—Most of the summer bedding plants may now be transferred to their flowering

quarters, with the exception of Begonias, Heliotropes, Ageratum and Dahlias, which might more safely be left till the last.

Polyanthuses.—Plants raised from seed sown under glass should now be pricked out into nursery beds on a partly shaded border. Old plants may also be lifted and divided at this time, planting them in a fairly rich piece of ground. In this way fine plants may be obtained for autumn bedding.

Sweet Peas will now be growing freely, so should receive attention in the way of staking before the growths fall over. Where the plants are grown singly with a view to the production of large flower-spikes the growths should be disbudded and tied in regularly.

JAMES McGRAN,
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

CONSERVATORY AND GREENHOUSE.

Agathæa cœlestis, the so-called Blue Marguerite, is a very pretty plant for conservatory decoration, producing as it does its small blue flowers in great profusion over a long period. It is easily propagated by means of cuttings at any time, and thus may be had in flower more or less all the year round. There is a variety with larger semi-double flowers, but it is not such an elegant plant as the type. There is also a variety with a lax trailing habit which is very pretty for baskets.

Oxalis floribunda, which has been in flower for some time, is very pretty for the greenhouse stage, both the type and the variety alba producing their flowers in wonderful profusion. They are also very fine when grown as basket plants.

Oxalis purpurata (syn. *O. Bowieana*), which flowers later than *O. floribunda*, is also very fine. As their foliage dies down water should gradually be withheld, and they should be given a rest and kept dry in a cold frame. During September they should be turned out of their pots and re-potted; they may be grown in a cold frame from which frost is excluded.

Chænostoma hispidum is a very pretty plant for the cold greenhouse stage. It is a neat little bushy plant, and produces its small white flowers in great profusion over a long period. It is easily rooted from cuttings at any time. This plant is a native of South Africa, and only requires cool greenhouse treatment during all stages of its growth.

Alonsoa Warscewiczii is a popular half-hardy annual which if grown in pots is very useful for conservatory decoration at this time. The less known *Alonsoa incisifolia* is also a useful and beautiful plant, and this particular species is propagated by means of cuttings. By propagating successive batches it may be had in flower all the year round.

Begonia manicata in its way is the finest of all the winter-flowering Begonias. In addition to its elegant sprays of flower it lasts in good condition for well over three months, that is, if it is kept in a cool house when in flower. Most cultivators keep it in a stove temperature, under which conditions the flowers come a poor colour, and only last for a few weeks. From now until the end of the month is a good time to propagate this Begonia by means of cuttings, which root readily in a close case. When potted off and growing they require a genial growing temperature of some 55° to 60° until the flowers show signs of colour, when they should be removed to a cool house. The first season their flowering pots should be 6 in. or 7 in. in size. After flowering they should towards the end of May be potted on until they are in 10 in. and 12 in. pots, in which they should make fine specimen plants 6 ft. to 7 ft. high when in flower. Such specimens are invaluable for grouping in a large conservatory.

Begonias of the winter-flowering section, of which *B. secotiana* and the tuberous-rooted varieties were the progenitors, should now be giving plenty of good cuttings, which should be secured when some 3 ins. to 4 ins. in length. These root readily in a close case with bottom heat at command and a top temperature of 55° to 60°. When rooted they should be potted on as they require it. During their growing season their cultivation is not difficult, as they grow freely in an intermediate temperature of some 55°. Careful watering is, of course, essential at all times. A few of the best varieties are Optima, Mr. Heal, Elator, Exquisite, Emita and Fascination. The double-flowered varieties do not succeed near London, as they drop their buds during foggy weather. J. CUTTS,
Royal Botanic Gardens, Kew.

ANSWERS TO CORRESPONDENTS

THE GREENHOUSE.

PLANTS FOR A COOL GREENHOUSE (N. E. Devon).—We fear our correspondent is inclined to expect over much from the greenhouse which it is intended to heat by artificial means during cold weather to about 40° Fahr. This being the case, the idea of growing such plants as Gardenias and Allamandas, for instance, must be abandoned. Of the other climbers mentioned the Heliotrope, Niphetos Rose, *Plumbago capensis* and *Solanum jasminoides* are quite suitable, though for the *Solanum* we should be inclined to substitute *Mandevilla suaveolens*, as the *Solanum* could be grown out of doors if it were given the protection of a wall, or it would flourish if planted in a moderately warm corner where it could ramble over some unvalued shrub. For the three pillars in the greenhouse we suggest Heliotrope, *Plumbago capensis* and *Cassia corymbosa*. As it is intended to grow as many plants in the house as possible, climbers should be trained to the roof sparingly or they will cast too much shade for the well-being of the other plants. A word of warning against attempting to grow too many plants seems to be needed. Overcrowding is very harmful to all living things and we are of the decided opinion that it is far better to allow a limited number of plants fair space than to "squeeze in all that I can and hope for the best." With regard to Camellias, we have found it best in the West to plant them in a north-west aspect where they flower later and often escape the frosts that would otherwise spoil the blooms. The cause of failure with Lilliums out of doors is probably unsuitable soil. If Azaleas and Rhododendrons are grown many Lillies might be planted among them with prospects of success.

TREES AND SHRUBS.

BROOMS (Felsted).—*Cytisus kewensis* is one of the finest of the prostrate Brooms as it makes trailing shoots a yard long, covered with large creamy-yellow flowers. A stronger plant, with bright yellow flowers, is *C. scoparius prostratus grandiflorus*, of quite a prostrate habit. Small plants more suitable for the rockery are *C. Beani*, and *C. decumbens*, with yellow flowers. *C. Ardoini* is a beautiful little Broom, with yellow flowers, and erect, but only 6 ins. high. *Gemista pilosa* and *G. prostrata* are both small, procumbent yellow Brooms suitable for the rockery. *G. Hispanica* or Spanish Gorse is not procumbent, but forms an erect, spiny bush 12 ins. to 18 ins. high, covered with yellow flowers. The large bed at Kew contains many plants. A fine effect can always be produced with the above mentioned small Brooms, by planting a sufficient number of specimens to cover the area available.

FRUIT UNDER GLASS.

FIG WHITE ISCHIA (Felsted).—This Fig produces small fruits, of pale colour when ripe, and in great abundance. It is, therefore, well adapted for pot culture. The small fruits now appearing on last year's shoots should not be picked off, because they may be the only ones that will ripen in a conservatory that is not heated in spring and early summer. This is what is termed the first crop. The second will appear on this year's growths, but may not ripen without artificial heat.

MISCELLANEOUS

ACETYLENE GAS REFUSE (H. M. L. Kensington).—The refuse from acetylene generators should be left exposed to the air for three to six weeks before it is spread on cultivated ground. After that it may be used for any purpose for which lime is used in the garden and may be put on the ground at the rate of 1 lb. to 1½ lb. to the square yard.

THE DESTRUCTION OF SPARROWS (P. D., Glasgow).—The use of poison in the garden for any such purpose is greatly to be deprecated: also it is not possible to place any which, if eaten would not be equally harmful to poultry. To reduce the number of sparrows, which have become so destructive, better plans than poisoning are either to shoot them or catch them after dark in nets. With the former plan a little soft food may be placed on the ground near where the sparrows congregate, and when a number are feeding they could easily be shot if the gun-man is hidden within range. We need scarcely emphasise the necessity for extra caution in the use of firearms directed to objects on the ground. Successful netting is only carried out when the sparrows roost in such cover as that provided by Ivy on walls, from which the birds can fly out only in one direction. If four men or lads are available—two to hold the net, which is attached to a couple of long poles, and one on each side to beat the Ivy—the success of the foray will be all the greater. All the sparrows' nests should be pulled out frequently during the spring and summer in order to prevent increase.

NAMES OF PLANTS.—L. M. B. E., Melrose.—Seedling^s of *Primula hirsuta*.—W. S. M., Tunbridge Wells.—*Acetylano des*, "Norway Maple."—H. P. E., Teignmouth.—*Bilbergia nutans*.

FORTHCOMING EVENTS.

May 31.—Irish Gardeners' Association and Benefit Society's Meeting.

June 1.—Linnean Society's Meeting. Bath and West and Southern Counties Society's Annual Exhibition at Plymouth (five days).

ORCHARD GARDEN WOODLAND

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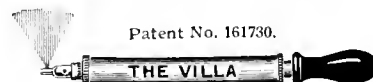
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SOME BEAUTIFUL BARBERRIES

FEW shrubs contribute more to the brilliance of the garden at this season than the Barberries. The particular kinds which are represented by the drifts of orange and gold are old favourites, being *Berberis Darwinii*, introduced from Chile in the first half of the nineteenth century, and *B. × stenophylla*, an accidental hybrid between Darwin's Barberry and *B. empetrifolia* a pretty but not conspicuous species. *B. stenophylla* is to-day one of the commonest shrubs; it is also one of the most worthy.

Many seedlings from *B. stenophylla* have been dignified with names. They mostly show a tendency to revert to the more richly coloured but stiffer *B. Darwinii*. Some are none the less not without value for special purposes. Such are the very compact habited *B. s. Irwinii*, useful in the rock garden; the richly coloured *B. s. corallina*, the buds of which are orange vermilion; and *B. s. Brilliant*, which is semi-deciduous and has brilliantly coloured foliage in late autumn.

The only other species—apart from the Mahonias, of which more anon—which could by any stretch of the imagination be called showy is *B. dulcis*, better known in gardens as *buxifolia*. Its lantern-like golden yellow fragrant blossoms are so spaced as to display their individual beauty, but the shrub does not afford the blaze of colour produced by *B. Darwinii* and its relatives. The very compact form of *B. dulcis* (*B. d. nana*) is suitable for the rock garden. It is showier when in flower than the typical plant.

There are several evergreen Barberries with much larger leaves than those we have been

considering, some of them reaching 3 ins. or more in length. The foliage of these is invariably glossy and rather striking, but the flowers, produced more sparingly than with the *Darwinii* forms, are primrose or pale sulphur yellow in colour. The nomenclature of these species is in nurseries very confused, but the plant usually offered as *B. Wallichiana* or sometimes as *B. Jamesoni* is *B. Hookeri* (Lemaire). This rather spreading evergreen shrub attains a height of 5 ft. or so, and the flowers, rather larger individually than in *B. Darwinii*, for instance, are pale yellow. The variety *latifolia* is not only broader leaved, but is a larger-growing shrub altogether, attaining a height of 10 ft. or more. It may be told from the typical plant by the fact that the foliage is green beneath, whereas in the typical plant the leaves are a pale glaucous hue. *B. H. latifolia* is usually called *B. Knightii* in gardens and nurseries.

Somewhat like the above species in appearance but with narrower foliage, golden yellow

flowers, and reddish petioles and sepals is *B. sanguinea*. This is a more elegant shrub than those just mentioned; the branches are less crowded and the whole shrub more pleasing. *B. acuminata* with brownish flowers and large foliage forms a distinguished-looking shrub.

Remarkable among the deciduous species is *B. aristata*, which appears to be quite hardy. It is a rapid and big grower, with rather large leaves often whitish beneath. The flowers are fairly freely produced and good bright yellow in colour. Like most of the deciduous kinds, it is even more remarkable when in fruit. The berries are red, but are covered with a bluish white bloom. There are several slightly differing forms or varieties in cultivation. It is in any form a worthy shrub. Somewhat similar in appearance, though distinct botanically, is the probably smaller-growing *B. pruinosa*.

Equally large-growing but more erect habited is the common Barberry, *B. vulgaris*, an indigenous species with moderately showy yellow flowers in pendent racemes and in autumn quantities of deep coral berries. There are several varieties, but the only one worthy of notice is the purple-leaved form. This is smaller habited than the type, but is none the less very robust. It flowers and fruits freely, and may be considered one of the indispensable Barberries.

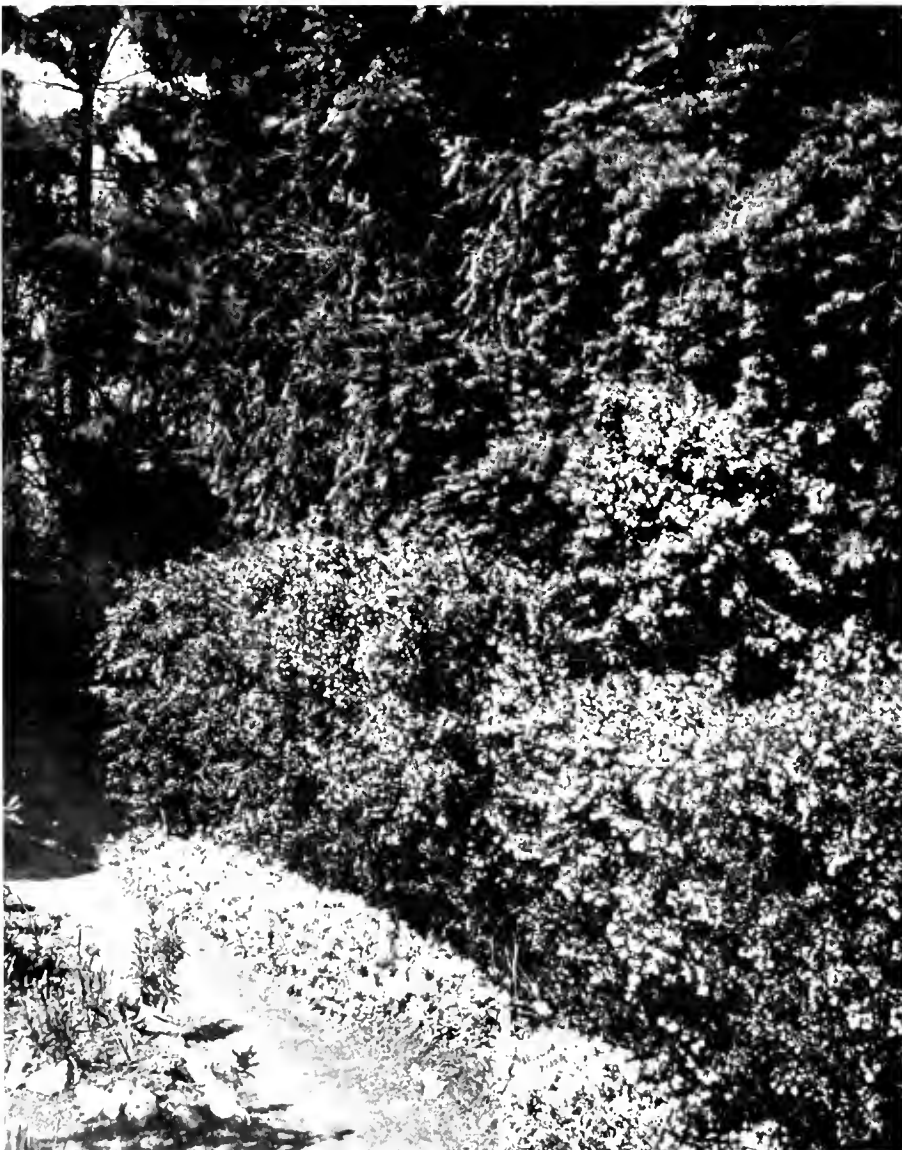
Very similar in foliage and habit, but on a smaller scale, is the buff-flowered *B. Thunbergii*, chiefly remarkable for its bright red fruits and, above all, for its wonderful autumnal colour. This, again, has several varieties, but one alone is noteworthy, namely, *B. T. minor*, which



GOLDEN SHOWERS OF BERBERIS STENOPHYLLA.



THE MAHONIA, BERBERIS AQUIFOLIUM.



GORGEOUSLY COLOURED, BERBERIS DARWINII.

grows 2ft. or so tall and has smaller leaves and flowers.

Berberis yunnanensis is a much newer introduction with soft yellow flowers. Growing perhaps 6ft. tall, it has exceptionally large fruits and flowers. Its foliage colours wonderfully in autumn. Another and smaller species with red berries and excellent autumn colour is *B. dictyophylla*.

The foregoing may be taken as typical of a very distinct class of Barberry. Those next to be mentioned, though also deciduous, are quite distinct in general appearance, inasmuch as the shoots are, generally speaking, more slender in proportion to their length and more thickly armed with prickles, while the very numerous fruits are borne in compact masses. Most of these are rather on the small side, but *B. polyantha* reaches a height of 8ft. or more. Its flowers are yellow and produced in long, drooping panicles when most Barberries are over, but it is chiefly noteworthy for the quantities of red berries which hang until late in winter.

B. Wilsonæ has salmon red, semi-translucent berries, and though obviously belonging to the same section as *B. polyantha*, differs from that species very widely. It is spreading in habit, whereas *B. polyantha* is, on the whole, erect growing and it is at all points a smaller and more delicate plant. The crowded flowers are lemon yellow in colour, but are interesting rather than conspicuous. The berries are, of course, the chief attraction, but winter or summer this is always a charming little shrub. It is small enough to be valuable for the large rock garden. In brief notes such as these *B. subcaulalata* may allowably be described as an erect-growing *B. Wilsonæ*. Very close to *B. subcaulalata* is *B. Stapfiana*. Somewhat similar, again, but larger habited and with bloom-covered darker fruits is *B. brevipaniculata* and the closely allied *B. Prattii*. Last of all, we come to the large-leaved Barberries, which gardeners agree to call Mahonias. These Mahonia forms are as distinct from the ordinary run of Barberries as are the Azaleas from the remainder of the genus *Rhododendron*.

The common Mahonia (*B. Aquifolium*) is almost too well known to need description, but its large pinnate leaves, soft green in spring, black-green in late summer, and often gorgeously tinged with red and orange in autumn, are peculiarly handsome, nor are the erect racemes of golden yellow flowers to be overlooked. The violet-coloured berries are very abundantly produced. There are several selected forms or varieties. This accommodating shrub will succeed on dry banks where little else will. It is valuable as a setting for shrubs which flower in winter before their leaves expand—*Forsythia*, to wit, or *Hamamelis*. It is, incidentally, a valuable covert plant. Closely allied is the American *B. repens*, a dwarfer plant with dull, bluish green foliage and less beautiful. The tallest of the Mahonias is *B. pinnata* with more erectly held foliage of a duller green and flowering from the axils down the stem as well as at the tips. The common Mahonia sometimes does this, but less frequently.

B. japonica is a very large-leaved species with dark but not glossy foliage and lemon yellow, fragrant flowers in racemes 6ins. or more long. Very similar, at any rate to the layman, is *B. nepalensis*. A form of *B. japonica* called *Bealei* (*Berberis Bealei*, *Carrière*) is more handsome than either species and hardier. Though most beautiful, even this should be treated with respect and given a sheltered corner. Other interesting Mahonias include *B. trifoliolata*, *B. Fortunei* and *B. Fremontii*, but as these will stand out-doors only in very sheltered situations, little need be said about them.

THE USES OF MATERIAL

II.—SPRING FLOWERING BULBS IN THE WILD GARDEN

THE notes on the uses of Rhododendrons and Azaleas published under this heading a fortnight ago were obviously incomplete, and will at a later date need elaboration. In dealing with a genus like the Rhododendron it would be folly to assume that all that is necessary has been said when a general indication has been given as to the best and most attractive methods of growing what, after all, is only the more decorative section of the genus as cultivated to-day. Outside the garden hybrids is a large and ever-increasing collection of species, some old and well known in gardens, some new and of which much has yet to be learnt, even by those who know them best. These include many alpine species quite unsuitable for the conditions previously described and many Himalayan and Chinese species, some of which are, while others are not, suitable for the same conditions. Occasion will, however, arise for suggesting the most picturesque methods of cultivating these at a later date. To-day my inclination turns to some

SPRING-FLOWERING BULBS AND WILD GARDENS.

Circumstances compel it. I have recently seen some of the fairest pictures of which the English flower garden is capable. Here is one. It is one of those days on which the far-off sky is intensely blue. Miles below the blue, but miles above the earth, roll billowy masses of grey and white cloud. You know the sort of day! One moment the world is grey and dull, the stirring breeze chill and unkind. The next a flood of sunlight sweeps over the scene, and everything seems touched to new and joyous life. It was in one of the grey moments that I arrived at the old Yew tree. Solid, dark and brown, its trunk rose 12ft. to 15ft., and then stretched its branches outwards and downwards until they swept the ground. Under the arching limbs the shadows lay cold and dull, but beyond, in the light, there rippled a greyish blue haze that seemed to go on and on until lost in misty indefiniteness. Then came the sunshine, and the grey became blue, revealing myriads of quivering blossoms of Anemone

apennina. Nothing rigid or formal in this picture, just the sort of thing Nature will do when left to herself. Away from the eye they stretched, first a mass of a million or so all nodding to the wind, then a break and something dark inter-vened, felt but not seen, and yet another sweeping, rippling mass of Anemone, another contrast, and yet a third sheet of sky blue colour and so on. As a picture exquisite in itself, but the glory of the garden is that its joys do not end with the picture so seen. The mind is carried out and away to some transient expression of Nature's beauty that such a scene urges to remembrance. Scudding cloud, a dark foam-flecked sea, and as the moon breaks through in half a dozen silver sheets it touches the restless surface to seething scintillation, and varied and wondrous colour. Such was the thought that passed through my mind as I stood in the sombre shadow of the Yew tree and looked towards the light.

But the Anemones are only part of the garden. A few steps along a gently bending path and another scene breaks on the view. Again blue is the predominating colour, but this time not all blue. Moreover, it is a different blue, that of the Grape Hyacinth, *Muscari conicum* "Heavenly Blue." Broad sheets of azure, cobalt and the greyest of grey blues mingled with cream and yellow *Munstead Primroses* clothe the ground, wave after wave, until the farthest wash is lost in the cream and pale yellow of scattered *Narcissi*. The brown remains of all that is left of last autumn's leaves, tussocks of short grass, late

mown, but now responding to the call of spring with a shimmer of soft green, the dark boles of trees rising sheer from the blue mass, and the lacy pattern of light and shade cast by their branches all combine to create a scene of sensuous delight.

There are other colour effects, too. Golden billows of *Daffodils* that, like a spent wave on



APENNINE ANEMONES IN THE SPRING GARDEN AT HALLINGBURY PLACE.

the seashore, have scattered spindrifts of colour beyond the main mass and so redeem the scene from that abruptness that is too often the failure of these woodland plantings. This is a very important consideration whenever one is contemplating what is understood by wild gardening. The crispness or weight of the picture should always be concentrated in the main masses, the intervening spaces mingled and indefinite. "It is necessary in music, when you strike a discord, to let down the ear by an intermediate note or two to the accord again, and many a good experiment, born of good sense, and destined to succeed, fails only because it is offensively sudden."

I cannot tell of all the wonderful things this particular wild garden contains, even of the spring-flowering bulbs. Other Anemones there were. A few lingering flowers of light and dark blue, pink and white, betrayed the presence of what had been glowing sheets of the Greek *Anemone blanda*, and where the shade was deepest and the ground dampest there crept the many forms of the Wood Anemone *A. nemorosa*. A very short time previously the grass under certain trees had been aglow with *Crocuses*, not only the various garden varieties, but also of the spring-flowering species.

The Glory of the Snow (*Chionodoxa*), both *Luciliae* and *sardensis*, played an important part in the garden a little earlier. Naturalised in masses among low-growing Ferns and in short grass there is no more dramatically thrilling colour than their exquisite blue, that comes well before the winter has passed. Another and different effect, though in no sense less beautiful, is that produced by fallen leaves left from last autumn, ruddy brown in the winter sunlight, through which a myriad Winter Aconites have pushed their golden way, while scattered in drifts through them are Snowdrops. I saw this picture in another garden, too. In this case it was the broad grass stretches on each side of a drive enclosed by an avenue of old Limes. The owner had wisely forbidden his gardeners to remove the autumn leaves, not only from the desire for their colour note in spring, but because it had been



MUSCARI HEAVENLY BLUE AMONG CREAM AND YELLOW PRIMROSES.

proved that the bulbs succeeded much better when the leaves were left than when swept up in the general autumn tidying.

Yet another charm is offered by plantings of the Dog's Tooth Violets (*Erythronium*). Out in the sunlight or where the shadows fall most of the day *Erythronium Dens-canis* will cover the ground with sheets of white, pink and brown, while where the shade is deeper, the undergrowth a little thicker and the ground perhaps a little damper most of the American species will succeed.

If those indicated are not enough, there are still the Scillas, or Wood Hyacinths, with a fine range of colour from the rich blue of the earlier *Squills sibirica* and *bifolia* to the white, rose pink and softer blues of *nutans* and *campanulata*, The North American Wood Lilies (*Trillium*), which desire the moister spots. The Snowflakes (*Leucojum*), and even then the list is not exhausted, but must suffice.

Such gardens are not for all, but something of

their beauty can be produced in a comparatively small area. A few trees, a little care in the preparation and planting, and in particular to the distribution of the various bulbs used, will produce remarkable results at a time of the year when the rest of the garden is still uninteresting.

The spring wild garden is the nearest one ever gets to Nature's soul in the garden. The winter is past, and as the sombre shadows in the woodland grow deeper day by day as the trees put forth their leaves the earth beneath seems to ripple with a multi-coloured smile. Nature's night is over and this is Nature's dawn. Mankind reads day by day the eternal lessons of the universe, hearkens to the "music of the spheres" and sees signs and wonders innumerable, but throughout the year he can find nothing so joyously full of the message of hope, in a world newly redeemed from its winter saddened past, than in the brilliant charm of hollow, dell and hillock in the spring wild garden.

GEO. DILLISTONE.

MANY-HUED COLUMBINES

Their propagation from seed, with some of the better species or strains.

AT this season of the year many hardy perennials may readily be raised from seeds sown in the open garden. Among such few are more worthy than the Columbines, as old-fashioned folk still call the various species and strains of *Aquilegia*. If one has plants of the kind of which it is desired

blossoms. The flowers of this strain are almost invariably of bright but delicate hue, two shades, usually of different colours, being found in each. The petals and spurs are one shade or gradation, though the spurs often take the sepal colour at the tips, and the sepals another. There is an almost infinite variety of colouring.



ALTOGETHER CHARMING—THE BLUE AND CREAMY WHITE BLOSSOMS OF *AQUILEGIA STUARTII*.

to increase the stock, it will, however, be well to wait for the ripening of the seeds. New seeds of *Aquilegia* germinate much more readily, evenly and quickly than those of the previous season.

The old-world Columbines of cottage gardens are forms of *A. vulgaris*, an indigenous plant, and some of them have considerable merit as garden plants, especially the clear blue form and the single and double white ones. There is a strain of these with flatly expanding flowers which is called "Clematis-flowered," though to the writer the blossoms call to mind a large-flowered *Rhodanthe*.

The long-spurred hybrids which are now so popular are derivatives of various American species, all characterised by the long nectar-secreting spurs which assist in giving a fairy lightness to the

Of the species from which these hybrids have originated, the most delicately beautiful is the Rocky Mountain Columbine, *Aquilegia cœrulea*. Petals and spurs of this species are a wonderful semi-transparent pale blue and the corolla white. Others readily procurable are *A.A. chrysantha*, a very long spurred kind with golden yellow flowers; *Skinneri*, orange-red and greenish-yellow; *canadensis*, red and yellow; and *truncata* (*californica*), a long, narrow flower, vermilion without, clear yellow within.

There are many really beautiful old world species, including *A. alpina*, surely one of the most beautiful of alpine treasures. This deep blue and azure treasure is, unfortunately, a biennial and can never be seen at its best if procured as a stunted pot plant

Seed should be sown where it is to flower on a site in the rock garden, not too parched by summer sun. It will then reach 1½ ft. in height and produce quantities of blooms on each plant. It self-sows itself readily enough, but alas! the seedlings almost invariably prove to be worthless mongrels. Collected seed alone may be relied upon, but this may be obtained cheaply enough. *Verb sap.*

Aquilegia glandulosa is a beautiful dwarf species seldom seen true in gardens. The flowers are pale blue with a white corolla. Another treasure with almost disproportionately large flowers for the size of the plants is illustrated. This is *A. Stuartii*, also dressed in bright blue and white. Except, it may be, for a few forms of *A. vulgaris*, it seems well-nigh impossible for a Columbine to be ugly or displeasing. The slender wiry stem and cool, prettily disposed foliage go far to make the veriest mongrel which ever comes up in garden a joy to the eye. It is none the less annoying to find a patch of what was fondly expected to be *A. Stuartii* for instance, a heterogeneous collection with varying shades and shapes of flower and diverse habits of growth. If one would save one's own seed, a plant or two in pots in a carefully screened and isolated cold frame provide the only way of securing the true species, but artificial pollination must, of course, be undertaken.

Freshly gathered seed may, if well soaked, germinate any time from ten days to a month after sowing. It is wise to water thoroughly immediately the seed is sown and cover the drill with a board which should be removed for inspection every day or so after the first ten days. Year-old seed, even if kept thoroughly wet, sometimes takes some time to germinate.

THE ROCK CRESSES

SURELY the most popular plant for the rock garden is the well named Rock Cress (*Aubrieta*). Its ease of culture in any not over-rich soil, its spreading habit, its freedom of flowering and its considerable colour-range are strong points in its favour. So accommodating is it that it will succeed and prove most effective in the front of the herbaceous border or shrubbery; or it may be, and often is, used in spring bedding.

For spring bedding there is no variety so good as the old soft mauve variety *græca*, while *Dr. Mules* is an excellent purple sort for the purposer. *Græca* is especially valuable for ribbon bedding, as, by judicious pruning, it can be kept accurately to shape. For the rockery there are many excellent named varieties, of which the following represent only a personal selection: Among violet and purple sorts, *Lloyd Edwards* and *Dr. Mules*, taking habit into consideration, may have preference. Of mauve and lilac tints, *J. S. Baker* (early-flowering), *Lavender* and *græca* deserve mention. Approaching white there are *tauricola alba* (palest lavender) and *Bridesmaid* (soft blush pink). Of soft rose shades, *Lilac Queen* and *Moerheimi* are good. *Fire King* and *Dandy* are representative of deep ruddy shades. Two variegated leaved forms are both extremely effective, though they are rather sparse in flower. These are called *argentea variegata* and *aurea variegata* respectively, of which the latter is the stronger grower.

For those who have a fondness for raising plants from seed, the *Aubrieta* offers great opportunities, since in a whole batch of seedlings it is usually impossible to find one quite unworthy. The seeds may be raised in a pan at practically any season of the year, and if pricked out as soon as large enough and given ordinary attention will flower in from nine to fifteen months.

It is quite practicable to sow the seeds on old walls, so that they may establish themselves there; but if mixed seed be used it will probably be necessary to discard some, because their colouring clashes with the surrounding varieties. The *Aubrietias* run naturally in shades of more

or less diluted purple, and the reddish tones are apt badly to clash with the bluish ones.

Propagation of named kinds is most readily effected a few weeks after flowering. The new growths from the centre may then be detached with a modicum of root attached and be planted

out under a handlight. Many gardeners cut over the plants immediately flowering is done to facilitate the production of new growths, but should the weather prove hot and dry this custom not infrequently leads to loss of the plants.

FURTHER GLEANINGS FROM CHELSEA

Being the remaining instalment of our Special Correspondents' Comments upon the Exhibits, with Descriptions of the Novelties and Rareties on view.

TREES AND SHRUBS

As ever it was the brilliantly handsome *Rhododendrons* and *Azaleas* that compelled the most attention and admiration at Chelsea. The large, roundish bed filled almost to overflowing with the beautiful pink trusses of *Alice* in one of the many exhibits by Messrs. Waterer, Sons and Crisp was a sight to remember for many a day. This variety is of a darker shade than the popular *Pink Pearl*, which was also present in generous quantity, and the trusses were nearly as large. Another good pink *Rhododendron* in the same exhibit was *Bernard Crisp*, which is a pale blush with deeper-coloured margins. For wealth of bloom it was the immense bushes of *George Hardy* that one admired, and

many *Mollis*, the flame-coloured varieties *Anthony Koster*, a rich yellow, and *J. C. van Tol* were wonderfully beautiful. The little *Kurume Azaleas* are dainty and charming, and were to be seen in the *Yokohama Nursery* collection of stunted trees, in Mr. R. C. Notcutt's exhibit of valuable trees and shrubs, as well as in Messrs. Cuthbert's collection.

Next to the *Rhododendrons* and *Azaleas* came the magnificent *Clematises* by Messrs. G. Jackman and Son. The *Woking* nurserymen have long been famed for the excellence of their *Clematises*, but on the present occasion they excelled themselves. Besides such standard sorts as *Fairy Queen*, *Nelly Moser*, *Lord Neville*, *Lady Caroline Nevill*, *Duchess of Edinburgh*, *Lasurstern*

and by Messrs. R. Gill and Son from the West Country. These included beautiful forms and hybrids of *R. Aucklandii*; and *Lady Aberconway* had the small-flowered *R. Roylei*, *R. Sargentiana* and the fragrant *Lady Alice Fitzwilliam*.

Of general trees and shrubs, though there was not perhaps the usual variety, ample were there to occupy the attention of all lovers of them. The necessity for trees and shrubs, even in the smallest garden, is becoming more fully realised than has been the case in the past. Flowers are necessarily of comparatively brief duration, but prolonged colour combined with grace and charm of foliage is provided by many of the Japanese *Maples*, which were a great feature of the Show. Messrs. W. Fromow and Co. had their usual



MESSRS. WATERER'S EXHIBIT OF RHODODENDRONS.

wondered how it became possible to transport these huge specimens in such excellent order. *Corona* was a charming though smaller truss. The buds are cardinal red, and as they open the colour fades through pink to blush. *Starfish* has a large truss of deep blush pink flowers from which the filaments protrude to an unusual length.

But *Pink Pearl* was the *Rhododendron* of the Show, and besides the large quantity in Messrs. Waterer's collection it was also well shown in the tents by Messrs. J. Cheal and Sons, Messrs. Fletcher Brothers, Mr. G. Reuthe, and in several of the excellent gardens out of doors, as well as in Messrs. Wallace's wonderful *Iris* garden.

Ghent, *Mollis* and *Rustica Azaleas* provided most brilliant masses of colour in many exhibits, though the largest was by Messrs. R. and G. Cuthbert. The double pink *Aida* and the blush *Rosetta* of the Ghent sorts were splendid. Of the

and *Gloire de St. Julien*, they had several splendid new sorts. *Lady Betty Balfour*, a very free-flowering, vigorous, rich velvety purple, which may be termed an immensely improved *Jackmani*; *Crimson King*, which surpasses *Ville de Lyon*; *King of the Belgians*, a silvery mauve of patens type; and *Miss Bateman*, another patens type of pinkish lavender colour, are all splendid acquisitions. Of the double-flowered sorts Mr. Jackman kindly selected for us the best in his opinion. *Belle of Woking*, pale lavender; *Duchess of Edinburgh*, white; and *Lady Lovelace*, pale purple. Good *Clematises* were also to be seen in a collection by Messrs. John Peed and Son, which included *Marcel Moser*, *Lady Caroline Nevill*, *Mrs. George Jackman* and *Duke of Norfolk*, among many others.

The more tender *Rhododendrons* were shown by *Lady Aberconway* from her North Wales garden

large collection in which was to be seen the rich golden colour of *Acer japonicum aureum* contrasting with the intense blood crimson of *A. palmatum sanguineum*. The season has suited all these *Maples*, and they were of even better colour than usual. Their value in association with other shrubs was well illustrated by Messrs. Cheal and Sons, Mr. J. C. Allgrove, Messrs. Wallace and Co. and Mr. R. C. Notcutt, but the most charming colour was on a little specimen of *Acer Chisio* in the valuable collection of rare trees and shrubs by the Donard Nursery Company. Their central mass of the new Donard Seedling *Broom* was also perfectly charming. Such uncommon shrubs as *Lomatia pinnatifolia*, many *Leptospermums* and the variegated *Myrtle* were also included.

Lilacs have had a trying time, but still Mr. Charles Turner, Mr. Notcutt and Mr. J. C. Allgrove were able to exhibit fascinating sprays of fragrant

bloom. With the last-named collection there was a gorgeous spray of *Cornus florida rubra* which retains its bright colour for a long time in a cut state.

A large circle of Hydrangeas of many sorts shown by Mr. H. J. Jones illustrated how handsome this shrub is where it can be grown out of doors. Of his many sorts the rich pink of *Etincelant* and Professor Du Bois was admirable.

Probably the most striking of the trees and shrubs were the large branches of *Davidia involu-crata* in the collection of Mr. J. C. Allgrove. This *Davidia* is the tree which is such a noteworthy feature of the hillsides in Eastern China. It was discovered by the late Abbé David, in whose honour it is named. The tall trees in full bloom, bearing the large twin bracts of almost pure whiteness, give the trees the appearance of having been caught by a late spring snowfall. The true flowers, set in the centre of the inflorescence, are comparatively inconspicuous, but these large white bracts persist for a considerable time. Even before it reaches flowering size the large deep green entire leaves make it a handsome and desirable deciduous tree, which is quite hardy in the Southern Counties.

Out of doors topiary specimens were a great feature. Mr. J. Klinkert had made quite a garden with many of his well grown specimens. The broad grass walks bordered by hundreds of *Nepeta Mussini* gave a cool and restful effect. Almost every possible form was to be seen, and all were perfectly trained. A little further away Cutbush's "cut-bushes" were exhibited, and they were also worthy of admiration for the long, patient skill that had been expended on them. Some very large specimens were arranged by Messrs. Cheal and Sons next to their beautiful Rose garden. In the tent the Yokohama Nursery Company were showing the dwarf Japanese trees which fascinated many visitors.

HARDY PLANTS

One could have spent a whole day wandering from one group of hardy plants to another, taking notes from each of anything that specially appealed. In what group was there not some flower one would fain see oftener and have for one's own as part of the make-up of his garden?

Mr. Amos Perry, as usual, showed many things that attract. Perhaps the gem of his exhibit was a tiny lilaceous plant from the East, garnered by the late Mr. Farrer in high altitudes and called *Nomocharis pardanthina* (var. *Farrerii*). The single flower was very choice, almost orchid-like and was the only specimen in the Show. *Dianthus Fosteri*, a single carmine flower with a peculiar lead-blue centre, is also a scarce plant. It was raised by that eminent Iris grower, the late Sir Michael Foster. Perry's Oriental Poppies are deservedly famous and one admired the variety named after Mr. E. A. Bowles, a dainty and delicate shade of pale pink. Dwarf cushions of golden yellow were formed by *Potentilla aurea*, while that charming but difficult moraine plant, *Lewisia Howelli* made a cool carpet of apricot buff.

In Messrs. Barr's stand one noted the peculiarly shaded Iris *Zwanenburg*, and the *Regelio-Cyclus* *Charon*. *Trollius* in variety gave fine gold and orange effects among the host of well grown herbaceous plants.

From Liverpool came Messrs. Bees, Limited, with long-spurred *Aquilegas*, *Pyrethrums*, *Gentians*, *Polyanthus Beesiana*, and *Meconopsis cambriaca* fl. pl.

Messrs. G. and A. Clark secured a good floor space which they put to profitable use. In the centre *Astilbe Venus* in tall pink plumes dominated groups of *Delphiniums*, *Pyrethrums*,

Eremuri and *Irises*, and there was an uncommonly select strain of *Anemone coronaria* staged along the margins.

Messrs. Wallace and Co., Limited, had a low walled border surrounding their elevated display of *Irises*, and here they had reserved space for various forms of the *Regelio-Cyclus* *Irises*, some



A GLIMPSE OF ONE OF THE TWIN GARDENS OF ALLWOODII.

rather uncommon bulbous plants, such as *Ixiolirion Pallasii* and *Brodiaea coccinea*, and a few of the choicer Lilies, notably *Marhan* (a little gem), *Mrs. R. O. Backhouse*, *Excelsum* and *Regale*. One seldom sees plants of *Myosotidium nobile*, the giant Forget-me-not from the Chatham Islands since the late Mr. Douglas of Bookham brought his giant plants up to the R.H.S. hall twelve and fifteen years ago, but Messrs. Wallace had a few here, so also had Mr. Reuthe of Keston.

One always looks to Messrs. Blackmore and Langdon for *Delphiniums de luxe*, but this year the season has been backward and only a few spikes towered above the magnificent carpet of Oriental colours formed by the firm's collection of *Begonias*; among them were *Mrs. A. J. Watson*, *Capri*, *Lamartin*, *W. T. Ware*, and the new *Mrs. Towle* *Parker*, of lovely sky blue in large single flowers well placed on the spike.

From the well known nurseries of Messrs. Jackman of Woking, came a few showy *Cistus*es well worth seeing. *Silver Rose*, is self descriptive, with very large flowers, while the older forms, *purpurea* and *formosus* were also represented. A new seedling *Lupin* of rich pink shade blended well with *Delphiniums* and tall bearded *Irises*. Among the dwarfier plants, *Aster alpinus* Baker's variety, *Cheiranthus Pamela* Pershouse (pale orange), and *Phlox subulata* *Violet Queen*, stood out prominently.

Messrs. Waterer, Son and Crisp also staged hybrid *Lupins*, *Eureka*, *Sunshine*, and *Moerheimi* being very fine; the old *Iris germanica* grouped in a mass made a fine splash of dark blue. *Iris Alcazar* and *Ingleborg* among the newer hybrids showed the contrast between old and new. *Aster alpinus* *Wargrave* variety is very pretty lavender with a yellow centre. This firm's long spurred *Aquilegas* were noteworthy.

Among a fine lot of hardy *Primulas* and annual *Delphiniums*, Messrs. Piper had a pretty little *Dianthus* named *Ruy Blas*, rather uncommon.

We have seldom seen such robust and highly coloured spikes of *Lupinus hybridus* as those shown by Mr. Downes of Chichester. Such variety of shading and the richness of the tones brings this plant up to a high standard of usefulness for the herbaceous border.

Reading is an important centre for horticulture,

and a new race of very striking hybrid *Mimulus* displayed by the Chalk Hill Nurseries will further fix the name of Reading in the public mind. The plants formed a glorious splash of colour.

VIOLAS AND PANSIES

Exhibition *Violas* largely—so useless for garden embellishment—were shown by H. Clarke, Taunton. The flowers were set up in such a manner that it was difficult to appreciate them. Notable sorts were *Major Townsend* (yellow, edged blue), *Lily Stark* (fancy), *Mrs. James Scalley* (white, edged blue). The better bedding sorts were *Moseley Perfection* (rich yellow), *W. H. Woodgate* (pale blue), *White Empress* (cream), *Swan* (white), and *Maggie Mott* (mauve blue).

Pansies and *Violas* were shown by Mr. John Forbes of Hawick. Quite a number of old favourites were to be seen here, but put up in a fashion too crowded for one to appreciate their true beauty.

In Messrs. Jarman and Co.'s stand were a few *Violas* such as *V. gracilis* *Golden Spur* (sweet scented), *V. gracilis* *Velvet Queen*, and *V. cornuta* *purpurea* in excellent form.

Pansy *Pansies* were shown in fresh condition and in good form by the Chalk Hill Nurseries, Ltd, Reading. Here were to be seen these popular flowers in typical form and in a great array of colour, and the visitors much admired them.

ALPINE AND ROCK PLANTS

Among many exhibits wholly or partially devoted to alpine and plants for the rock garden, one stood out for its exceptional interest to alpine lovers. This was Dr. MacWatt's collection of hardy *Primulas*. One is tempted to enlarge upon the characteristics of each species in a way hardly admissible in a show report. Of the better-known species on view, such as *Bulleyana* and *helodoxa*, there is little need to speak, though

a group of *P. sikkimensis* was worthy of notice for the truly remarkable health and vigour of the plants exhibited. Evidently related to this species, the seldom-seen *P. chionantha* with creamy white blossoms and foliage smoother than in *P. sikkimensis* claimed attention, but though excellently grown, it lacks in our climate the vigour of the Sikkim plant.

The *Primula Veitchii* were remarkable for the richness of their colour, being evidently the result of much careful selection. Others of the cortusoides section displayed were the very distinct *P. geraniifolia*, and that beautiful and interesting species *P. seclusa* with wonderful foliage and striking dark-centred starry flowers. The beautiful and substantial-flowered *P. lichiangensis* with its deep brown calyces, however, we looked for in vain.

P. involucrata was there looking, as usual, rather washed-out by day, though it shows bright enough at dusk; also *P. Wardii*, very similar to *P. involucrata* in habit, but deeper in colour. The variable and also similar *P. sibirica* was not included, though we noticed it elsewhere in the Show.

Those two striking if very dissimilar species—neither good garden plants—*P. P. Littoniana* and *Forrestii* were there, and quite a collection of species more or less in the way of *P. muscarioides*, including such seldom-seen species as *P. P. nutans*, *Watsoni*, *conica* and *Menziesiana*, also *P. capitata* (true).

Of the *farinosa* section a fine plant of *P. longiflora* was noticeable, but *P. farinosa* itself was on view, as were *P. P. saxatilis* and *fasciculata*, both uncommon, though the latter has recently received an award of merit.

Other beautiful species noted were *P. P. secundiflora*, *Wilsoni*, *Smithiana*, *Rusbyi*, *Readii*, *Werringtonensis*, *heucherifolia* and the charming *vincaeflora*. Of the various cross-breeds space will allow reference only to the hybrids between *P. marginata* and border *Auriculas*. These were exceedingly charming and are doubtless easy garden plants.

Those who go to an exhibit staged by Mr. G. Reuthe to look for rare and beautiful plants are never disappointed. His display at Chelsea, though greatly curtailed by the "Powers that be," was a veritable mine of interest. A small collection of hardy British Orchises first claimed attention. It is strange these are not more sought after, since many of them are at once distinguished and beautiful. Here were, among others, *mascula*, *pallens*, *fusca*, *undulatifolia* and *latifolia*—a form from Kilmarnock this. In another part of the exhibit was to be found the beautiful Colombian Orchis, *O. spectabilis*. A good and substantial variety of *Primula Sieboldi* was noted, but it occasioned a pang of regret that most of the range of these Japanese Primroses seem to have dropped out of cultivation. *Dianthus musale* appeared to be identical with *D. microlepis* var. *rumelica* noted elsewhere. Whichever name (if either) be correct, this is a pleasing and compact little Pink obviously related to *D. D. microlepis* and *Freyii*, but easier to grow than either. Other treasures noted were *Ramondia pyrenaica alba*, *Haberlea virginialis*—at the risk of being thought heretical the writer will hazard that this is the only *Haberlea* worth cultivating—*Androsace glacialis* (a very pale form), *Geum triflorum*, *Linum capitatum*, *Daphne Valloti* (true) which flowers several times a year, the purplish *Cheiranthus limbiloba*, *Myosotis Ruth Fischer*, the seldom-seen *Anemone globosa* with smallish rosy carnine flowers, *Polygala Chamabuxus Vagredæ* (the Spanish form, which is a brilliant carnine externally), and several sorts of Wood Lily, including the purplish *Trillium sessile californicum erectum* (thank you!) and *T. rubrum grandiflorum*.

On Mr. Hemsley's exhibit *Wahlenbergia serpyllifolia* was noteworthy, also *Antirrhinum Asarina* and *Heeria elegans*. A plant labelled *Dianthus Freyii nana* was quite beautiful, but approximated very closely to *D. microlepis* var. *rumelica* as exhibited elsewhere. *Dianthus neglectus* was good in colour but starry in form.

The rockery bank (on staging) of Mr. E. Scaplehorn of Lindfield was chiefly remarkable for a nice collection of dwarf conifers, among which the trailing *Thuya Sargentii pendula* called for special notice. A nice piece of that delightful carpeter *Raoulia australis* served as a foil to the flowering plants, while a little colony of *Saxifraga lantoscana* was the too usual dirty white, not the glorious pearly form which represents the perfection of beauty in encrusted Saxifrages. The vivid colour of *Tritonia aurantiaca* attracted much attention.

Messrs. W. H. Rogers and Son of Southampton had an exhibit of considerable interest, featuring House Leeks (*Sempervivums*) rather largely. Other worthy things noted were a wee Cypress, *Cupressus obtusa tetragona minima*, *Asplenium Trichomanes* in very healthy condition, *Helichrysum bellidioides*, *Oxalis enneaphylla*, *Linaria pallida rosea* and *Sisyrinchium pachyrrhiza*, healthy and interesting, but not yet in flower.

Mr. Maurice Prichard had the "Mother o' Thousands"-like *Saxifraga Brunoniana*, the bright *Silene Hookeri*, *Erodium chamædryoides rosea* (a dinky little Cranesbill), that azure *Forget-me-not*,

including *C. C. parviflorum* and *montanum*, *Haberlea Ferdinandi Coburgi*, *Linaria Cymbalaria alba compacta*, which really seems compact in habit and tree to flower, and two hybrid Pinks called *Mona* and *Adoree*, which may both be described as long-stemmed, large-flowered and exquisitely shaped forms of *Dianthus neglectus*.

On Messrs. Waterer, Sons and Crisp's stand a nice colony of *Dodocatheons* were attractive. Other good things included *Viola pedata*, *Cheiranthus alpinus citrinus* and *Cytisus Ardoini*.

Messrs. Cheal's exhibit had for its most noticeable feature the beautiful *Asteriscus maritimus*, but this, of course, is hardy only in favoured localities, and even then needs a sunny corner. *Oxalis adenophylla*, *Pentstemon Scouleri*, *Androsace villosa* and the monocarpous *Sedum pilosum* were also noted, also the graceful hardy Maiden-hair, *Adiantum pedatum*. The form of this exhibited was very beautiful, but scarcely typical of the species.

Messrs. Bakers of Wolverhampton had a lot of furnishing plants, including such beautiful things as *Pentstemon Scouleri*, *Androsace z. Chumbyi* and *Gentiana verna*; the Chalk Hill Nurseries of Reading had large-flowered *Mimulus*, which would be ideal for the bog; while Messrs. Bees had an interesting exhibit which included *Androsace Watkinsii*, *Trillium grandiflorum*, *Saxifraga lingulata* and the Warley *Æthionema*.



THE BRIGHT ROSY-CERISE DIANTHUS ALPINUS.

Myosotis rupicola, *Anemone sylvestris* and *Primula Ailni Aroon*. This was to be seen throughout the Show, but the plants of Mr. Prichard looked unforced and characteristic of the variety. Other noteworthy plants from the Christchurch nurseries included *Anemone sylvestris* and *A. baicalense* (very pretty and uncommon), *Gazania montana*, *Ranunculus bilobus*, *Oxalis adenophylla*, *Lewisia Howelli*, *Delphinium nudicaule luteum* (strange in its yellow livery), *Primula capitata*, *Potentilla verna nana*, hardy Slipper Orchids of sorts, mainly *Cypripedium pubescens*, but

Mr. F. G. Wood of Ashted, Surrey, had an interesting little exhibit with such things as *Onosma tauricum*, *Aquilegia glandulosa*, *Sedum dasyphyllum* and *Dianthus deltoides* Brilliant.

Those in search of the uncommon were well catered for by Mr. Reginald M. Prichard of West Moors, Dorset, whose commoner things (!) included *Gazania splendens* and *G. montana*, *Dianthus alpinus*, *Cotyledon sinplifolia* and *Helichrysum frigidum*. A brace of singular and rare *Androsaces* were the brick red "Chinaman," *A. coccinea*, its flower umbel on a 6m. stem, the rosette of

leaves dark green and hairless, and the extraordinarily foliaged *A. geranifolia* with especially long, wiry stems and flower-heads something like those of *A. sarmentosa*. *A. foliosa* also was noted.

The pale purple *Campanula Aucheri*, obviously an easy doer, but with rather a *Wahlenbergia* appearance, was also noteworthy. *Phlox Douglasii* Lilac Queen is obviously a cross between *P. Douglasii* and a *P. setacea* form. It will become popular. *Phlox subulata* Alicar is a lilac seedling from Nelson, whose fine habit it retains.

Messrs. Tucker of Oxford had an exhibit indoors, where *Lewisia Howellii*, *Cyclamen repandum*, *Androsace Watkinsii* and *A. Chumbyi*, *Wahlenbergia pumilio* and *Atragene alpina* were noted. Both here and on their rock garden outside *Dianthus microlepis rumelicus* was in evidence. Outside, *Dianthus alpinus* and the white variety, *Myosotis rupicola*, *Sedum pilosum*, *Matthiola pedemontana* (a grey-blue alpine Stock), *Primulas farinosa* and *frondosa*, *Arnica montana*, *Orob. varius*, *Iris lacustris*, *Pinguicula grandiflora* (cool as cool in its damp, shaded corner), *Allium pedemontanum* and *Orchis fusca* were some of the treasures on view.

Messrs. Skelton and Kirby's exhibit was noteworthy for good patches of *Aizoon Saxifragae*, *Olearia stellulata*, a valuable shrub for the fair-sized rockery, was also represented.

Mr. Ladhams had brought up from Shirley, near Southampton, a collection of hardy plants mostly suitable for the herbaceous border, but *Primula helodoxa*, a wide colour range of *P. japonica*, some nice *Dodocatheons*, the brilliant yellow *Oxalis Valdiviana* and the white Dog-Violet were interesting.

Messrs. Bowell and Skarratt's collection included *Androsace primuloides* (surely more chaste than *A. Chumbyi*, but less often seen), *Corydalis Wilsoni*, *Tulipa persica*, *Cypripedium acaule*, *Antirrhinum Asarina*, *Oxalis adenophylla*, *Potentilla alchemilloides* with handsome foliage and silvery white flowers, *Thalictrum anemonoides* and *Asperula suberosa*. The quaint spotting of *Veronica pectinata rosea* and another *Speedwell* of somewhat similar complexion called *V. circulosa* with tiny white spotted flowers attracted attention.

Mr. Wells, Jun., had a scratch alpine exhibit acting a stop-gap for a collection of herbaceous plants not ready in time. Such excellent plants were included as alpine Poppies in various colours, *Anemone sylvestris*, *Trillium grandiflorum*, some *Ranondias* smothered in buds, but not yet fully in flower, including the rare pink variety and an excellent colour form of *Primula sibirica*.

On Mr. Clarence Elliott's rock garden outside was what he designated an alpine meadow. The idea is that by planting appropriate alpines of various habits thickly together they form a natural turf which quite obviates the need for grasses of any kind, which are quite unsatisfactory in our climate. Mr. Elliott claims to have tried and proved the method of planting. The meadow as exhibited included *Linaria pallida*, *Bells sylvestris*, *Arenaria verna*, *Gentiana verna*, *Kalschia Saxifragae*, *Primula farinosa*, *P. scotica* and the glaucous-foliaged alpine forms of *Senecio Doronium*, *Mongrel Pinks* and *Violas* for the rockery are the writer's pet aversion, but those who like them should make a point of seeing *Viola Arkwright's Red*.

GARDEN DESIGN

In the tent devoted to them and more happily placed this year near the formal gardens, the garden architects displayed their designs and photographs of completed work. Messrs. Milner, son and White made something of a new departure in the form of a scale model of one

of their gardens. This would certainly be easier for many people to understand and appreciate than the usual garden plan, but, though even the camera can be deceptive, photographs of completed gardens provide the "acid test" most people favour. Mr. Percy Cane evidently appreciates this, for his display this time consisted even more largely than usual of excellent photographs of completed gardens in various styles and in excellent taste.

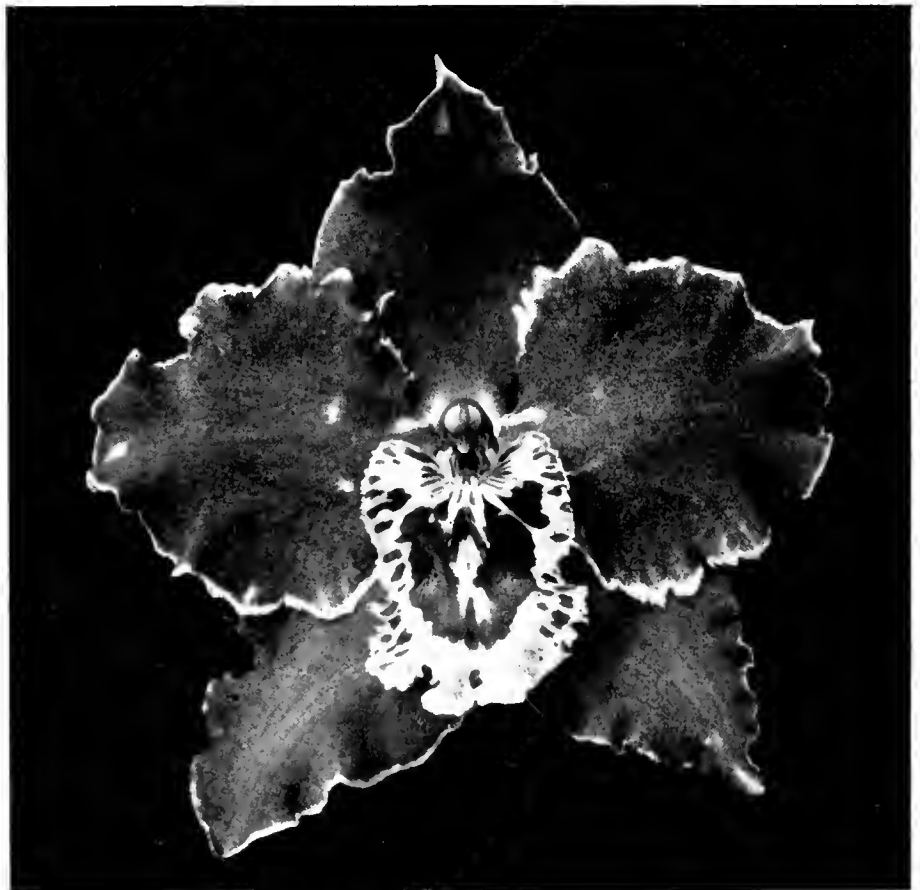
Messrs. Wallace, however, still favour colour-washed perspectives, and colour in the garden is of the highest importance. The cost of colour photography which would combine both advantages is, one supposes, prohibitive.

ORCHIDS

Sir Jeremiah Colman, Bart., exhibited a truly remarkable group of rare species and choice hybrids from his celebrated collection at Gatton Park, Surrey. The finest of the Brasso-Cattleyas was seen in a beautiful pure white flower named *Gatton Lily*; and another hybrid, equally large and rich in colour, was *Laelio-Cattleya J. F. Birbeck*. The back row was made bright with several

Messrs. Charlesworth and Co. staged one of the largest of the trade-growers' groups. It was made light and effective by the massing in the centre and at each end of snow white *Odontoglossum*. The finest plant was unquestionably *Odontoglossum Purple Emperor*, with three immense, heavily blotched purple flowers. A hybrid that attracted much attention was a grand plant of *Brasso-Cattleya heatonensis*, with eight large canary yellow blooms, the lip being deeply fringed at the margin. *Peristeria elata*, known as the Dove Orchid, was well shown. A very curious flower of greenish colour was seen in *Lycaste gigantea*, and a light tinted species was represented by the rare *Vanda snavis pallida*. In the angle of the group many interesting *Cymbidiums* were staged, and it is remarkable that some of these flowers had been open for over six weeks. A hybrid that has remained noteworthy since the old Temple Show days was seen in *Laelio-Cattleya Fascinator*, with rose-coloured petals and a purple lip. *Miltonia vexillaria* and a wide selection of its handsomely blotched hybrids were fine examples of present-day seedling Orchids.

Messrs. Sanders staged an extensive group, the chief attraction being the rare *Ansellia congoensis*,



THE GLORIOUS ODONTOGLOSSUM PURPLE EMPEROR.

plants of the golden yellow *Dendrobium Hlnstre* and superb examples of *D. Dalhousieanum luteum*. One of the features of this group was the rare *Dendrobium acuminatum*, the best plant carrying four spikes with an aggregate of fifty-five rose-coloured blooms. Areas of golden yellow were produced by masses of the graceful *Odontoglossum Wilckeanum Colmanii*, and several finely cultivated *Odontodas* added attractive spots of bright scarlet. A striking Orchid and one of the real rarities of the Show was *Megaclinium purpureorachis*, the minute blooms resembling a row of toads sitting on a flattened snake.

with three spikes and an aggregate of 170 blooms. Near one end was the tall *Cyrtopodium punctatum*, with a fine spike of numerous flowers. A novelty was seen in *Cymbidium Nelly*, with greenish-yellow blooms, and the interesting *Angulocaste Vesta* was staged near by. A beautiful effect was produced by many fine examples of *Cattleya citrina*, the pendulous, globular blooms of rich yellow hanging over a bed of green moss. A noteworthy plant was the albino variety of *Aerides virens*; and a fine example of cultivation existed in *Odontoglossum crispum*, carrying a spike of seventeen crimson-blotched flowers.

NEW AND RARE PLANTS

Messrs. J. and A. McBean had a group containing exceptionally well grown *Odontoglossums*, the best being *O. Arabic*, with a spike of four chocolate-coloured flowers. *O. Lilian*, with seventeen blooms, and a fine variety of *O. Rosina* came in for well merited praise. Along the front row were to be seen fine varieties of *Miltonia vexillaria*, those with blotched lips being well above the average. A richly coloured flower was staged in *Cattleya Empress Frederick*, and several snow white hybrids of this genus were worthy of inspection.

Messrs. Stuart Low and Co. showed the Jarvisbrook variety of *Brasso-Lælio-Cattleya Jupiter*, an immense flower. Another variety of this hybrid, named *His Majesty*, was a gorgeous companion. This firm had also in their group, *Brasso-Cattleya Trium*, with two large purple blooms. Fine *Cattleyas* were seen in several varieties, and a golden-yellow Orchid was represented by *Lælio-Cattleya luminosa aurea*. A fine piece of orange colour was produced by massing *Lælio-Cattleya G. S. Ball*, which is still a favourite hybrid. The *Odontodas* included a striking combination of scarlet blotching on a rose-tinted ground, and named *O. Eileen*. Many interesting *Oncidiums*, some bright yellow *Dendrobiums* and selected varieties of the best known hybrids were admirably staged.

Messrs. Cypher and Sons showed some remarkable plants of *Epidendrum gattouense*, the spikes of which had continued to produce orange-red flowers for over twelve months, and looked like keeping fresh for even longer. No spring show is complete without the ever-moving flowers of *Bulbophyllum barbigerum*, and four unusually fine examples of this species were well staged. The pretty *Oncidium Papilio*, with its butterfly-like blooms poised on tall bending spikes some 3ft. in length, was very pretty, as also was a grand plant of the scarce *Selenipedium macrochilum* with its long ribbon-like petals.

Messrs. Flory and Black included in their neatly arranged exhibit a large *Brasso-Lælio-Cattleya Rumania*, white, with a purple streak on the centre of the lip. A novelty was seen in *Rolfeara Atreus*, and the albino flowers were well represented by *Cattleya Irene* and *C. Brenda*. Mention must also be made of *Lælio-Cattleya S. O. Stephenson*, an improvement on the well known *L.-C. Dominiana*. A new hybrid of much promise was *Lælio-Cattleya S. W. Flory*, with rich rosy-purple flowers.

Messrs. Mansell and Hatcher exhibited a choice assortment of the popular hybrids, mainly consisting of blotched *Miltonais* and pretty varieties of *Lælio-Cattleya Fascinator*, as well as *L.-C. Hyeana*. A plant of more than ordinary interest was *Cypripedium Curtisii Sanderæ*, with emerald-green flowers. Near the centre was to be seen *Lælia purpurata Queen Alexandra*, white, with light rose veining on the lip. A pleasing effect was made by scarlet *Odontodas* placed near some pure white *Odontoglossums*.

Messrs. Armstrong and Brown had an effectively arranged group, in which the central plant was the *Orchidhurst* variety of *Brasso-Cattleya Dietrichiana*, exceptionally well coloured. Among the *Odontodas* was one named *Henryi*, having a spike of twenty-three flowers of an unusual orange-yellow tint. The elegant *Cymbidium Lowgrinum*, as well as *Cypripedium Maudslayi*, with its greenish blooms, were seen to advantage. Several new *Odontoglossum* hybrids were worthy of close attention.

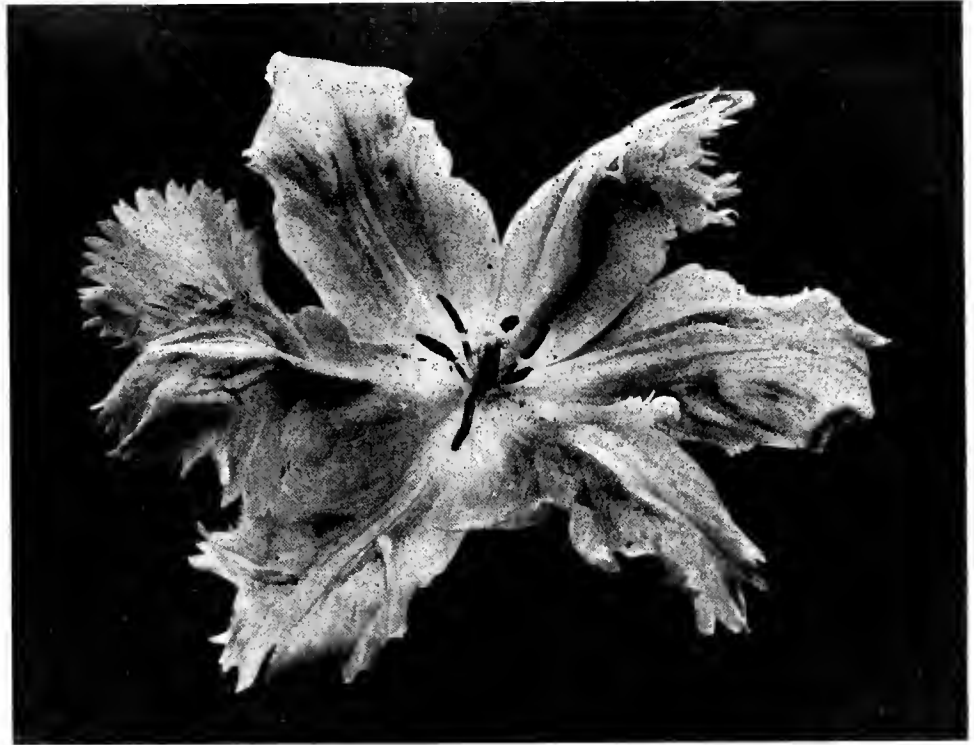
Mr. Harry Dixon staged some excellent *Cattleyas* and *Brasso-Cattleyas*, among the latter being fine forms of *Queen Alexandra* and *Empress of Russia*. The central area of this group was well filled with scarlet *Odontodas* and white *Odontoglossum crispum*, while on either side were some fine varieties of the popular *Cattleya Mendelii*, as well as hybrids of this species and of *C. Mossia*.

Aponogeton distachyon roseum Aldenhamense.—A very vigorous variety of the Water Hawthorn. The floral bracts are faintly flushed with salmon-pink, which is deeper coloured at the base. It is not quite so fragrant as the type, though it is a handsomer water plant. Shown by the Hon. Vicary Gibbs.

Carnation Cream Saffron.—Apparently this is a pale cream-coloured sport from the well known variety of greenhouse Carnation, for it is much

H. Professor du Bois.—This variety produces very big, shapely trusses of large, shining mid-pink-coloured flowers. It was decidedly the best variety in the large collection at the Show. Award of merit to Mr. H. J. Jones.

Iris Regelio-cyclus Crestes.—A fascinating Iris which is much easier to admire than to describe. It has all the grace and charm of this group, which is the result of intercrossing *Iris Regelia* with *Iris Oncocyclus*. The delicately



THE CHARMINGLY COLOURED PARROT TULIP FANTASY.

like it in form and size. Occasionally the creamy-white flowers are touched with yellow. Award of merit to Mr. C. Engelmann.

C. Orangeman.—An excellent Border variety of good shape and orange colouring. Award of merit to Mr. J. Douglas.

C. Steerforth.—A large, well formed Border Carnation. It is heavily flaked and margined with bright crimson on white ground. Award of merit to Mr. J. Douglas.

C. Viceroy.—A very handsome Border Carnation. It is a yellow ground variety, lightly flaked with crimson, shading to purple at the margins. Award of merit to Mr. J. Douglas.

Cytisus Donard Seedling.—In many ways this may be termed a more vigorous and graceful *C. Dallemorei* and of rose and fawn colouring. It is the result of a cross between that variety and *C. ochroleuca* and is a handsome shrub, growing quite 12ft. high. Perhaps the most promising novelty in the Show. Shown by the Donard Nursery Company.

Hydrangea Parsival.—A charming and highly decorative variety. It bears shapely, compact trusses of rich pink-coloured flowers not quite so large as in some sorts, but it makes a good head above medium-sized leaves. The individual flowers are round, flattish and have evenly serrated edges. Award of merit to Messrs. W. H. Cutbush and Son.

veined standards are bronzy-mauve coloured, and the falls are shaded purple lake. The delicate beard is sap-green, and there are twin emerald lines on the style arms. Award of merit to Messrs. Barr and Sons.

Monocharis pardanthina Farreri.—A charming and uncommon little Lily, discovered by the late Mr. Farrer on the grassy slopes of the Hypinaw Pass of the Yunnans. The colour is variable, but generally is silvery shell pink, flushed with rose on the outside. The edges of the flowers are evenly serrated. The plants on view bore only a single bloom, but Mr. Farrer describes it as having two, three or more. Shown by Mr. Amos Perry.

Pelargonium Sir Percy Blakeney.—An "Ivy-leaved Geranium" of unusually compact and sturdy habit. The bright, deep scarlet flowers are produced more freely than is usually the case with this type. Award of merit to the Rev. D. T. Wright.

Pink (Herbertii) Bridesmaid.—A charming little garden Pink of pale blush colour with a much deeper zone. Award of merit to Mr. C. H. Herbert.

P. (Herbertii) Lord Lambourne.—A handsome, velvety carmine border Pink nearly as large as a Carnation. It has crimson-maroon centre and is sweetly scented. Award of merit to Mr. C. H. Herbert.

P. (Herbertii) Red Indian.—An uncommon border Pink of medium size and deep rosy lavender colouring. Award of merit to Mr. C. H. Herbert.

Primula obconica Salmon Queen.—An exceedingly pretty and floriferous variety. It makes a sturdy, compact plant, bearing large numbers of round, salmon-pink flowers of great substance. In general appearance they are much like those of good form of *Primula stellata*. Award of merit to Messrs. Sutton and Sons.

Rhododendron Coalition.—A neat and compact truss of more than medium size. The colour varies from blush-pink to vivid rose-pink and is very attractive. The deep green foliage makes it a handsome bush at all times. Award of merit to Mr. Lionel de Rothschild.

R. Falconeri.—There was shown a wonderfully handsome truss, set above its large, striking, rugose leaves, densely clothed with rust-coloured felt underneath. Unfortunately, this Himalayan species is too tender to produce its large, creamy white floral bells out of doors except in the most favoured places. Award of merit to Messrs. R. Gill and Son.

R. Geoffrey Millais.—A chaste and beautiful flower. The large truss is made up of widely expanded blooms of the faintest blush tinge, which, at times, are quite white. The long style is pale salmon coloured. Award of merit to Mr. Lionel de Rothschild.

R. Norman Gill.—This was the most beautiful of the many Himalayan hybrids at the Show. The truss is very large and quite compact. The almost immense blooms expand widely and are apple blossom blush shades of colour with a small crimson blotch in the centre. Apparently a cross between *Beauty of Tremough* and *R. Aucklandii*. Award of merit to Messrs. R. Gill and Son.

R. orbiculare.—A fair-sized truss of dainty, widely expanded, bell-shaped flowers of ruby-magenta colour. There are distinct veinings of a rather darker shade of this colouring on the flowers. The neat foliage is pale pea green colour underneath. This is apparently one of the many species from China, and would make a very attractive bush of medium size. Award of merit to the Hon. H. D. MacLaren.

R. St. Keverne.—A very handsome truss which appears to owe something to *R. Thomsonii*. The large blooms are of deep crimson colour, and are lightly spotted on the upper segments. Award of merit to Mr. P. D. Williams.

R. Robert Fortune.—A very large truss of charming pale blush colour. The large flowers open widely, disclosing a striking rayed crimson-lake blotch around the style. It is one of the Himalayan hybrids that luxuriate so well in Cornwall. Award of merit to Mr. P. D. Williams.

Rose Capt. F. S. Harvey Cant.—A large, full, H.T. Rose of globular shape, deep pink colour and pleasant fragrance. It is of vigorous habit, and several good standards were on view. Shown by Messrs. Frank Cant and Co.

R. Henry Nevard.—A velvety crimson H.P. Rose, fully double and of flattish shape. It possesses in a marked degree the real old Rose fragrance. The growths are stout and vigorous. Shown by Messrs. Frank Cant and Co.

R. Mrs. F. S. Harvey Cant.—A very large H.T. Rose that in appearance when fully open suggests a larger *Souvenir de la Malmaison*, but it has the Tea Rose scent. Shown by Messrs. F. Cant and Co.

Stellera Chamæjasme.—A very rare little Thyme-like sub-shrub which is rarely seen in

cultivation. It is a neat little plant, about 1 ft. high, bearing small, lanceolate leaves surmounted by rounded heads an inch or so across of creamy, star-like flowers. It is the *Ground Jessamine* of Siberia, and was introduced in 1817. Award of merit to Major Stern.

Tulip Carrara.—This was the first really white Darwin Tulip to be raised, and it received an award of merit last year. It is a vigorous variety, producing large flowers. The petals are broad and the filaments are green. First-class certificate to Messrs. Barr and Sons.

T. Dido.—A very showy Darwin Tulip of soft orange colour. The outsides of the petals are heavily coloured with carmine red. Award of merit to Messrs. Barr and Sons and to Messrs. Dobbie and Co.

T. Phemio.—An excellently shaped white variety with pale green stigma and anthers. Award of merit to Messrs. Barr.

T. Fantasy.—This is an exceedingly beautiful Parrot Tulip of glistening pink colour shaded with orange and pink on the wide ragged petals. The flowers are stained with brownish green on the outsides. It was raised by Messrs. de Graaff Bros. Award of merit to Messrs. Barr and Sons.

Telopea speciosissima.—Several most handsome heads of this rare Australian shrub were shown, and their uncommon shape and bright ruby cardinal colour, shading to crimson, attracted a deal of admiration. It is the *Waratah* or *Warrataw*, and is the national flower of Australia, but is so rare that only a few in that country have seen it. First-class certificate and cultural commendation to the Rev. A. T. Boscawen.



BORDER CARNATION STEERFORTH, BRIGHT CRIMSON-PURPLE AND WHITE.



THREE NEW BORDER PINKS (HERBERTII), BRIDESMAID, RED INDIAN AND LORD LAMBOURNE.

HORTICULTURAL APPLIANCES AND SUNDRIES

After the stifling heat and the heavy scent-laden air of the tents at Chelsea it was a relief to get outside and walk down the Lime Avenue where the horticultural appliances and sundries were to be found. There one could walk in comfort and inspect the varied assortment of garden accessories and labour-saving devices so necessary in these days to the garden owner. Here were to be seen mowing machines of every description, spraying machines, garden furniture, garden ornaments, insecticides and a host of other things.

Messrs. Boulton and Paul had a revolving garden shelter which appealed to many visitors. These shelters are exceedingly useful to those whose gardens are somewhat exposed. Here, too, was a very attractive conservatory, very strongly built and lofty. It would be an ideal structure to adjoin the dwelling house. Excellent garden frames were also on show, and what especially appealed to the writer, the Chain Helice water elevator for deep wells. Easy to work and not expensive, this elevator should appeal to those country readers whose houses are not a network of pipes and with whom inspectors of the Water Board have not yet become so prevalent as white fly.

Near by, Messrs. Duncan, Tucker and Sons, the well known horticultural builders, had some attractive-looking greenhouses, conservatories and garden furniture. Here, too, propagating cases, so essential for the raising of plants, were on view. The up-to-date ventilation system adopted by this firm is very good and easy to work.

Greenhouses were also shown by James Gray, Limited. This firm had also a new flower pot which, made of galvanised iron, is said to be exceedingly useful for the cultivation of Tomatoes under glass. There are no bottoms to these pots, and as they stand on the ground level the plants can root straight into the soil beneath. This method of culture is said to yield splendid crops. Garden frames and Gray's special Tomato fertiliser were also included in the exhibit.

The largely used Acme weatherproof non-rustable garden labels were to be seen on Mr. J. Pinches' stand. A novelty shown here, although simple in design, will no doubt be welcomed by many gardeners. It is, in effect a swivelled pot-hook, the idea of which is for suspending plants either in a greenhouse or porch. The pot-hook is constructed of wire and works on a swivel, thus enabling the gardener readily to turn the pot round and so equalise growth. Mr. Pinches also catered for the exhibitor by showing a new shelf-clip, into which may be fixed vases.

The Improved Pemberton Display Stand which is collapsible and worked on the clamp principle, should prove of great value to the exhibitor. The vases may be placed in any position, which is a great advantage. There were also table stands in various designs for cut flowers.

Messrs. Walter Voss and Co. showed their well known insecticide, fungicides and fertilisers. Here, too, was to be seen cyanide of potassium, the deadly poison so useful for the annihilation of white fly. We understand that this firm have recently taken over "Blighty," the well known wash for Potato disease.

H. Scott and Sons showed a large collection of insecticides and weed killers. The "Alvesco," a fumigant for Tomatoes against the ravages of white fly, was exhibited by Murphy and Son of Mortlake. There was also displayed nicotine petroleum emulsion, said to be extremely effective against red spider on Cucumbers, whilst ammonium copper carbonate for Tomato rust and Gooseberry mildew was also included in this extensive exhibit of insecticides and fumigants.

Jeyes' Sanitary Compounds, Limited, brought their well known horticultural washes and sprays which are familiar to the majority of gardeners.

"Rito," the famous fertiliser, was shown by the Molassine Company. This is a good all-round fertiliser.

From Edward Cook and Co. came a comprehensive collection of insecticides, fungicides, fertilisers and spraying machines.

Messrs. Prentice Brothers exhibited their well known "Tomorite," the Tomato fertiliser. Ichthemic guano and innumerable other fertilisers were also included.

"Prize Crop" fertiliser was the chief exhibit on the stand of Maskell-Harris and Co. We also noted their Alkaline fertiliser.

Fertilisers, insecticides, spraying machines and syringes were shown in an extensive exhibit by the well known Stonehouse Works Company.

"Metro" sulphate of ammonia, creosote, etc., were exhibited by the South Metropolitan Gas Company.

"White Fly Death," sulphur wash for Rose and fruit trees, "Niquas" (Improved), an excellent non-poisonous insecticide, and lawn sands were exhibited by Corry and Co., Limited.

"Sox," the famous non-poisonous insecticide and fungicide, and Dyoweed, a non-arsenical weed-killer were the chief exhibits staged by Messrs. Hawker and Botwood, Limited, who had a host of their other well known and approved insecticides and weed-killers.

Lime preparations were to be seen on the stand of the Buxton Lime Firms Company, Limited.

The popular Abol spraying machines and hand syringes of every description were shown by Abol, Limited. Spraying machines were also shown by the Four Oaks Spraying Machine Company, Limited; Messrs. Edward Cook and Co.; and the United Brassfounders and Engineers, Limited.

Messrs. Cooper, Pegler and Co. showed the popular Vermorel's spraying machines and a host of sprayers for every purpose.

The Automatic Utilities Company showed their Dayton rotary and oscillating sprinklers, which can be made to sprinkle water from a 3ft. to a 40ft. radius. It can be made to sprinkle in a circle or half-circle. It is quite a small affair, very reasonable in price, so it should find a home in every garden. Tennis players particularly should make a point of procuring this excellent little sprinkler. Other types of sprinklers were also shown by this firm, and were in working order, which made one in the tropical heat feel inclined to take a "shower."

Exhibits of garden furniture were numerous. Cane furniture was shown by the Dryad Cane Company. Other firms with exhibits of garden furniture of all designs included Harrods, Messenger and Co., Atlas Wholesale Supply Company, H. and J. Caesar, Abbott Brothers (folding furniture), Village Centres Council (disabled men), Homebilt Company, W. Unwin, Piggott Brothers (who had also tents and tent equipment), Castle's Shipbuilding Company, A. W. Gamage, Limited, Hughes, Bolekow and Co., and Wm. Wood and Son, who, besides, had an extensive exhibit of everything for the garden. Their grey hard tennis court was also on view.

Garden ornaments of every description were on view, and it is impossible here to describe the many beautiful sundials, pieces of statuary, well-heads, fountains and other desirable things. Those who showed the above included Sander and Co., London; Hughes, Bolekow and Co., Kelly and Co., A. H. Moorton, Limited, and Ravenscourt Pottery.

A substitute for glass was shown by C. M. Davies and Co. It is called "Windolite," and is

said to be an excellent thing for greenhouses and frames.

A novelty was exhibited by H. J. G. Wood (H. J. Greenwood) in the shape of a plant stake. It is called the Willmott Rival Plant Stake. Made of galvanised wire, and simple in design, it should prove of exceptional value to those who grow Carnations and bulbs, including Freesias.

Arthur H. Moorton, Limited, had a large display of birds' nesting-boxes. This firm has recently taken over these boxes from the Royal Society for the Protection of Birds.

Ladders of all descriptions were to be found down the avenue. Messrs. Drew, Clark and Co. had a large selection of their "Diamond" ladders, including patent extension ladders.

The Acme Patent Ladder Company also had a large collection of their well known ladders.

House and Garden Sundries Company exhibited their patent seed sower, which is a great boon, especially to the amateur gardener. They also had their wall clips, which are extremely useful for Roses and fruit trees. A new invention just brought out by this firm is for netting supports for the protection of Strawberries. Made of stout galvanised wire, these supports are also useful for dwarf Peas and such like crops. The supports in use were illustrated in our last issue, on page xvi.

Garden Supplies, Limited, had a vast collection of garden accessories, including motor mowing machine, syringes, garden tools, lawn sands, weed-killers, artificial manures and many other things. A new garden roller attracted the writer's attention. Made of concrete, it is heavy and reasonable in price.

W. Carson and Sons had a collection of paints suitable for greenhouses and horticultural buildings generally.

Some fine fibrous yellow turf loam was shown by Mr. A. B. Johnston.

The well known Carnation raisers, Messrs. Allwood Brothers, had a stand containing Carnation supports, rings, labels, fertilisers, and a lot of other indispensable things to the Carnation grower.

Perhaps the greatest novelty in the sundries section was a gardener's tool bench shown by R. Melhuish, Limited. Fitted up with drawers containing labels and all the tools required for the garden, this should, indeed, find a place in every moderate-sized garden. Very compact, it does not take up much room. Other notable things on this stand were seed cabinets, which are essential, especially in large gardens; hand sprayers, mowing machines, insecticides, and every kind of garden tool imaginable.

Mowing machines of all descriptions were to be seen all over this part of the grounds. The Atco motor machine (22in.) appears to be an ideal machine for large gardens, tennis clubs, bowling greens and golf courses. The cost of running is estimated at 2d. per 1,000 square yards of grass. This firm offer to give free of charge demonstrations with the machine in any part of the country.

Messrs. Ransomes, Sims and Jefferies had several of their well known machines on show, including the motor and "push" varieties.

The Waltham Engineering Company, Limited, had some strong-looking motor machines (24in.).

The "J. P." super-lawn mower struck one as a very sound engineering proposition. The machine is easy to push, as ball bearings are fitted to both back axle drive and rotary cylinder cutter spindle. Spanners are not required, as simple hand wheel adjustments are attached. This machine is comparatively frictionless and particularly quiet in running. The machine, when a

catch is released and handles dropped, stands on end in a space of oims. by 17ins. Another point in this machine's favour is that the mechanism is dust-proof and dirt-proof, and runs in oil.

Motor machines were shown by the Nene Engineering Company, Limited.

The Multiflora Company, Limited had a collection of garden vases outside one of the large tents. These were of various designs and sizes.

A. Smellie and Co., Limited, exhibited garden netting, hoses, water-cans and garden tools.

Water-cans only were shown by Mr. J. Haws. These were of all sizes and patterns.

Beehives and all apparatus relating to bees and fruit storing appliances were shown by the well known firm of E. H. Taylor, Limited, Welwyn.

The famous Horse Shoe boiler was shown by Chas. P. Kinnell and Co., Limited, who also exhibited radiators.

The Wilkinson Sword Company showed their pruners, which are now becoming well known.

The popular *Plucca* pruner was shown by the Elliott Pruner Company.

The famous "Pattisson" horse boots were to be seen on H. Pattisson and Co.'s stand. Other important things to be seen here were "Graduator" distributor (an effective top-dresser for lawns), and a great assortment of garden tools and syringes.

Messrs. J. Weeks had a collection of heating apparatus both for small and large houses.

Wm. Cooper and Nephews, Limited, had a vast collection of weed-killers, spraying machines and spraying fluids.

The popular *Cloche* clip was exhibited by the *Cloche* Clip Company. This is an indispensable thing in the rock garden during the winter months when one wishes to protect some choice plant. Glass can easily be fixed over the plant by means of this clip. The Chase Continuous *Cloche* showed their very well known *cloche*.

A new garden plough was shown by Motes, Limited. It is called the "Titan" Horti Plow. This plough does away with digging. It is easy to use and should prove extremely useful to the gardener.

Fruit tree protectors were shown by Major C. Walker. Invaluable against the depredations of birds, wasps, frost and wind.

Messrs. Skelton and Kirby showed their patent tennis posts.

Conservatories and plant houses were exhibited by Messenger and Co., Limited, who also showed heating apparatus.

OFFICIAL LIST OF AWARDS

Sherwood Cup for the most meritorious exhibit in the Show: Messrs. R. Wallace and Co., for their exhibit in the tent.

Cain Cup for the best exhibit by an amateur: The Hon. Vicary Gibbs.

Silver-gilt Lindley Medal for cultivation: E. Beckett, V.M.H., H. Cunningham.

Model Gardens.—Gold medal: G. Bunyard and Co., Limited. Small silver cup: Herbert Jones, R. Wallace and Co. Silver-gilt Flora medal: Cheal and Sons, W. H. Gaze and Sons, Limited, John Waterer, Sons and Crisp, Limited. Silver-gilt Banksian medal: E. Dixon, "Ent-Tout-Cas," Gilliam (Croydon) and Co., R. Neal and Son, James Carter and Co.

Rock Gardens.—*Daily Graphic Cup*: Pulham and Sons. Gold medal and congratulations: R. Tucker and Sons. Large silver cup: G. G. Whitelegg and Co. Large silver cup: B. H. B. Symons-Jenne. Silver-gilt Flora medal: Hodsons, Limited, Kent and Brydon. Silver-gilt Banksian medal: Clarence Elliott, Limited.

Flowering Trees and Shrubs.—Gold medal: R. and G. Cuthbert, R. Wallace and Co., John Waterer, Sons and Crisp. Small silver cup: R. Gill and Sons. Silver-gilt Flora medal: Donard Nursery Company, William Cuthbert and Son, the Hon. B. D. McLaren, R. C. Notcutt, G. Reuther, Yokohama Nursery Company, J. Cheal and Sons, Limited. Silver-gilt Banksian medal: J. C. Allgrove, Fletcher Brothers, Hillier and Sons, Limited, T. Lewis, Stuart Low and Co. Silver Flora medal: John Waterer, Sons and Crisp, Limited.

Roses.—Large silver cup: William Paul and Son, Limited. Small silver cup: Elisha J. Hicks. Silver-gilt Flora medal: Benjamin R. Cant and Sons. Silver-gilt

Banksian medal: William Cuthbert and Son, G. Paul and Sons. Silver Flora medal: F. Cant and Co., George Prince. Silver Banksian medal: The Rev. J. H. Pemberton, Charles Turner.

Carnations.—Gold medal: Allwood Brothers. Allwood Bowl: The Right Hon. Lord Lambourne, C.V.O. Large silver cup: C. Engelmann. Silver-gilt Flora medal: William Cuthbert and Son, Stuart Low and Co., James Douglas, J. Lakeman, C. H. Herbert. Silver-gilt Banksian medal: K. Luxford and Co.

Tulips.—Gold medal: Dobbie and Co., Limited. Large silver cup: Barr and Sons. Small silver cup: Anglesey Bull Growers Association. Silver-gilt Banksian medal: R. H. Bath, Limited. Silver Flora medal: Ryder and Son, Limited.

Hardy Plants.—Large silver cup: G. Jackman and Sons. Small silver cup: Storrie and Storrie. Silver-gilt Flora medal: Amos Perry, H. J. Jones, John Waterer Sons and Crisp, J. C. Allgrove. Silver-gilt Banksian medal: J. Piper and Sons, G. and A. Clark, Limited. Silver Flora medal: B. Ladhams, Limited, W. H. Rogers and Sons, W. Wells, junr., Skelton and Kirby, E. Scaplehorn, Rich and Co. Silver Banksian medal: G. G. Whitelegg and Co., John Peed and Sons, G. R. Downer, G. W. Miller.

Rock Plants, etc.—Gold medal: M. Pritchard and Sons. Silver-gilt Lindley medal: John MacWatt. Large silver cup: Bers, Limited. Silver-gilt Flora medal: Bakers, Limited, Bowell and Skarratt, Clarence Elliott, Limited, Maxwell and Beale, G. Reuther, R. Tucker and Sons. Silver-gilt Banksian medal: Carter Page and Co., J. Cheal and Sons, Limited, R. M. Pritchard, John Waterer, Sons

and Crisp. Silver Flora medal: H. Hemsley, the Misses Hopkins.

Stove, Greenhouse and Conservatory Plants.—Gold medal: Sir George Holford, K.C.V.O. (gardener, H. G. Alexander), L. R. Russell, James Carter and Co., Sutton and Sons, Blackmore and Langdon. Small silver cup: Dobbie and Co. Silver-gilt Flora medal: Baron B. Schröder (gardener, E. J. Henderson), L. R. Russell, John Peed and Sons. Silver Flora medal: Mr. A. F. Wootton, K.C., R. Ellison. Silver Banksian medal: Webb and Son, Storrie and Storrie, Chalk Hill Nurseries. Bronze Flora medal: Jarman and Co., Godfrey and Son.

Sweet Peas.—Gold medal: Dobbie and Co. Large silver cup: Alex. Dickson and Sons, Limited. Silver-gilt Banksian medal: R. Bolton and Son, A. Ireland and Hitchcock. Silver Flora medal: J. Stevenson.

Vegetables.—Gold medal and congratulations: The Hon. Vicary Gibbs (gardener, E. Beckett).

Fruits.—Gold medal: G. Bunyard and Co. Silver-gilt Hogg medal: Rivers and Son, Limited. Bronze Hogg medal: Laxton Brothers.

Clipped Trees.—Silver Flora medal: J. Klinkert, William Cuthbert and Son, Farnow and Sons.

Hardy Grasses.—Gold medal: James MacDonoald.

Orchids.—Gold medal: Sir Jeremiah Colmao, Bart. (gardener, J. Collier), Charlesworth and Co. Small silver cup: Stuart Low and Co. Silver-gilt Flora medal: James Cypher and Son, James and A. McBean, Sanders. Silver-gilt Banksian medal: Mansell and Hatcher, Limited. Silver Banksian medal: H. Dixon, Flory and Black. Vote of thanks: Armstrong and Brown, Ch. Vulsteke.

ROYAL NATIONAL TULIP SHOW

This annual Show, which opened on the second day of "Chelsea," is now the veriest shadow of what it must have been in the thirties and forties of the nineteenth century. Those who are conversant with the *Midland Florist* and *The Gossip of the Garden*—two famous florists' periodicals of a bygone age—know what excitement the annual show once caused in floral circles. Now the interest—as evidenced in the proceedings of the present Show—is very limited. The exhibitors could easily be counted on the fingers of two hands, and at no time was there a great crush of visitors. I suppose people do not appreciate the glorious refined beauty which was to be seen in a grand flamed Sir Joseph Paxton, or in an almost equally good Trip to Stockport. Nor can they see anything of the purity of colour in such a breeder as Mr. Bentley's Glean. They prefer a Darwin like Farncombe Sanders or Isis—undoubtedly fine garden plants which the more delicate and refined florists' Tulips are not. I do not think they ever were. They never were means to an end—the end being garden embellishment. *They were the end themselves.* When Mr. Groom of Clapham Rise in the year (let us say) 1847, made his great Tulip bed of 50yds. in length and just over 4ft. wide, and put framing over the whole, covered with white linen on top and with rough canvas round the sides, he did not intend it to be an ornament to his garden. He erected it because the beauty of his Tulips demanded it. Perhaps it was more spacious than it need have been if it was only the flowers that were to be thought of. The blooming of Mr. Groom's Tulips was quite as great a society event as "Chelsea" itself. "All London" went to see them and to be seen. I am not going to argue the point whether we ought to have gardens for our flowers or flowers for our gardens. Popular opinion for the time being has decided we have flowers for our gardens; and so, although we do not "bed out" in the old fashioned way, we have colour schemes in our borders, and "drifts" in our rock work, and we humbly worship the great god Size, and we forget the rights (I can call them nothing else), of the individual flower in itself. Thus it comes about that the beautiful old rectified Tulips are passed by on the other side by so many of our modern gardeners. Perhaps the time will come when they will become fashionable again. All good things are not always appreciated as they should be. Every time I visit London I am filled with amazement at the way my fellow human beings treat the "moving stairs." They hurry up and down them as if they were treading

on very hot iron. Sometimes I think I see signs of the dawn of a greater common sense; and then it is as bad as ever and the crowd go up and down with more and more determination. It is so with the appreciation of the florists' Tulip. One year there seems to be that little cloud of greater interest on the horizon—only a man's hand in size, but full of possibilities; but the year after it has gone. One of these lean years is 1922. But for Mr. J. W. Bentley from Lancashire and Mr. Peters from Cambridge it would have been a sorry sight. The first named simply swept the board. "Every shy a coconut." Every exhibit of J. W. B. a first prize. He won the twelve Dissimilar Rectified Tulips, and the "size." He won the three flamed and the three feathered Tulips. He came out top in both the six and the three Breeder Tulips. Lastly the Samuel Barlow prize for the best "pair of Rectified Tulips, one feathered and one flamed" went to him and he had the premier Breeder in Glean and the premier flamed in Sir Joseph Paxton. The premier feathered was not marked when I came away. The runner-up in most cases was Mr. Peters, our Secretary, but Sir A. D. Hall and Mr. A. E. Chater cut in sometimes. Messrs. Barr and Sons had a nice display of May-flowering varieties on one side of the entrance and on the other a large flat board covered with specimen blooms of some of the best known "show" flowers. It was very useful for identification. A glance, for example, showed how Dr. Hardy differs from Sir Joseph Paxton; and the breeder Aglair from the breeder form of Trip to Stockport. For these two exhibits they were awarded a gold medal.

There are many who take an interest in old local dialects and old words and phrases. They feel the old times are indeed passing when these are fast becoming obsolete. Take plant names as an example. What names we find in Holland and Britten and in Prior! Are a tittle of them in use at the present? There is a Tulip language, not very old, of course, compared with the hoary age of the majority of names in these two dictionaries, but yet most expressive and in a way topical in the British "show" era. The best example is a "crinoline"—This is the chip or cardboard circle which is put into the blooms to enable them to carry well to a show. I must try to rescue these names. Here are three more expressive terms whose significance is only known to the elect—(1) Bald. (2) It puts its breeches on. (3) Beard. There are many others. What other flower is there that can boast such a broad-based colloquial vocabulary as the Tulip? JOSEPH JACOB.

CORRESPONDENCE

SOWING WALLFLOWERS.

IN his thoughtfully compiled calendar Mr. H. Turner (page 231) advises the immediate sowing of Wallflowers, those plants which add a beautiful and fragrant feature to all spring gardens. I know, of course, that the end of May is almost invariably recommended as the best time for this operation nowadays, but have never heard a sound reason in support of it. I have found that from the Trent southwards the end of June is plenty early enough, and that there is no cause for anxiety if the sowing is forced backwards until the third week of July. Last season, perforce of circumstances, I was unable to sow until the last week of July, and the results are most gratifyingly satisfactory. A friendly neighbouring gardener, who is a confirmed third week of May sower, told me on the occasion of a visit on May 12 that mine was the finest show he had seen this year, though, perchance, the villain flattered (we gardeners are prone, perhaps, to a little mutual, gentle back scratching)! My procedure is simple. If the ground is dry it is thoroughly moistened in the evening ready for seeding the next day; distribution is thin to the irreducible minimum in drills 6ins. asunder and about ½ in. deep; and my favourite time the first week of July. Little thinning is demanded, but it has attention promptly and the surface is kept open by frequent pricking over with a hand fork on a hoe shaft. When the youngsters are in, high they go to nursery beds firmly with a distance of roins. between the rows and 6ins. in them. Transference to flowering positions is done firmly in October, usually the second half. The points are not pinched out. My soil is a strong loam lying from 12ins. to 18ins. deep over Oxford clay, and it will grow anything—if it is humoured.—H. L. □

TULIP COMBINATIONS.

MAY I add three more combinations to my list in THE GARDEN for May 20th? (1) Tulipe Noire with Bouton d'Or. (2) Clara Butt (pink) with Imperial Blue Forget-me-not. (3) A pale yellow Tulip like Moonlight with blue Scilla campanulata.

The first two suggestions have been sent me by a friend. The last combination turned up unexpectedly in my own garden. The "sympathy" (to use a very old gardening word in both its ancient and modern sense) which exists between Scillas campanulata and nutans, and all May-flowering Tulips is impressed upon me more and more every year. There seems to be a Scilla, although their colour range is not a very wide one, to go with every Tulip. I only wish I had room to experiment on a fairly large scale.—JOSEPH JACOB.

EARLY TULIP CARDINAL RAMPOLLA.

ONE of the sights in my garden in the second week of May was a mass of the little known early Tulip Cardinal Rampolla. It was such a favourite with all my visitors! It is a singularly bright and happy-looking flower with its combination of rich yellow and pale reddish orange colouring. The Cardinal knows his Milton. He speaks—Listen!

"Hence loath'd melancholy

Of Cerberus and blackest midnight born."

If any flower can cure the doleful dumps, surely this can. Try it next year and see if this is not true. It is not very far removed from General de Wet in colour. It has the same tone, but the impression it gives to a bystander is very different. You cannot feel you are in the presence of one of the astutest diplomats of modern times. Its name

does not seem to fit it. It ought to be "Bindle!" —MÆLOR.

THE GREEN-FLOWERED HELLEBORE.

IF by "the green, winter-flowering Hellebore," Miss Case (page 242) means the tall *Helleborus fetidus*, I can, if she will give me her address, supply her with plenty of seed in a few weeks' time. Had I known her wishes before the borders were weeded, I could have sent seedlings, hundreds of which have to be rooted out every year. Last winter it began to flower on December 23.—HERBERT MAXWELL, *Monreith*.

A HIMALAYAN RHODODENDRON.

WE have been unable to name the Rhododendron of the picture, and wonder if you can help us. In an early season like 1921 it is in full bloom by the middle of March. I enclose a specimen for you to see.—(Mrs.) R. E. DEBENHAM.

[Our correspondent's plant is one of the many forms or varieties of the beautiful Himalayan



A FINE SPECIMEN OF RHODODENDRON ARBOREUM CINNAMOMEUM.

Rhododendron arboreum—the one known as var. *cinnamomeum*, in reference to the colour of the underside of the leaf. It is a distinct and desirable evergreen flowering shrub for Southern and Western gardens. In Cornish gardens specimens 20ft. or more in height are not uncommon. That this favoured county has rivals is apparent from the illustration of this beautiful Rhododendron sent by our correspondent from her garden near Chard, Somerset. This is, in fact, one of the hardiest forms of *R. arboreum*. It has white, freely spotted flowers and rather smaller leaves than most of the forms of *R. arboreum*. It was first grown in this country from seeds sent home by Wallich in 1822, the first recorded specimen to flower being in Messrs. Rolleson's greenhouses at Tooting in 1836. The plant is figured as *R. cinnamomeum* in the *Botanical Magazine*, tab. 3,290. In a sheltered part of the Rhododendron Dell at Kew a bush 5ft. to 6ft. high flowers annually in March or April. In the milder parts of the country the flowering is earlier, though this year Mrs. Debenham's bush was at least a month later in flowering.—ED.]

THE DAFFODIL SEASON OF 1922.

THIS season is certainly the "strangest" on my records for nineteen years. The records of first bloom of various sorts show an average start, with the Golden Spur, but the continuous cold winds dragged out the succession of kinds with the result that, as Mr. Pearson says, early and later sorts opened all together when a warmer spell did at last come. *Recurvus*, the last but one on my list, opened on May 16, two days later than in 1908, my previous record for lateness. But 1908 commenced (with Golden Spur) on April 4, twenty days later than this year. We are nearly one month later, for most varieties, than last year, which commenced on March 10, as against March 15 this year. Most of the earlier kinds were pinched and "unkind," but with warmer nights the later bloom has been, as Mr. Pearson notes strong and healthy.—ALFRED H. BASSANO, *Old Hill, Staffs*.

CUT FLOWERS BY POST OR RAIL.

I AM moved to write upon the above subject owing to the painful experiences I have had through the carelessness of people who send samples of flowers, sometimes to get them named, at other times to try to effect a sale. At the present moment there are in my office (1) Several blooms of trumpet Daffodils sent by a Dutch grower as samples in hopes of selling stocks. They all arrived *perfectly dead*, and one could only say "this was a yellow trumpet Daffodil, that was a pale trumpet Daffodil," etc., but as to any chance of seeing their merits or demerits, they might as well have never been sent. (2) A sort of herbarium specimen of a trumpet Daffodil, quite dry and brown, said to be a pale bicolor, but it might have been any colour. (3) Several poor specimens of far-gone Daffodils with hardly any stalks, one quite dead and beyond recognition. Now it seems a pity that folk should take the trouble to send blooms and pay postage and not take a little *more* trouble to ensure their arriving in decent condition. Let me give a few hints which, if faithfully carried out, should ensure the flowers arriving in really good order. Firstly, select if possible young blooms, preferably those only half open. Secondly, gather early in

the day and put the flowers in water for some hours before packing. Thirdly, pack in a box which will not crush. Ordinary cardboard boxes usually arrive squashed more or less out of shape. Fourthly, pack fairly tightly in some damp material, and cover up so as to exclude air as much as possible. My own practice is to line a wooden or very strong cardboard box with damp wadding—damped with a fine sprayer—pack in the flowers fairly tightly, and then cover with another sheet of damp wadding, tucking it carefully around the sides of the box; then put on lid and fasten up. Many people have a horror of wadding, and they may well have if it be used dry, but if sprayed I will back it against any other packing material. The next best thing to wadding is clean grass, and an additional safeguard is to tie some wet moss round the end of the flower-stalks. If one is sending Daffodils to one's friends, they should be made up in flat bunches, with the faces of blooms all one way. Two bunches can then be laid with stalks to middle and flowers to either end of box, bedded on damp wadding. Then

with a packing-needle thread a bit of tape or string through the bottom of the box—between the sides and bottom is the easiest plan—over flower-stalks and out at the other side of box, tying off securely on outside of the bottom of box. If string be used for tying down, put a pad of wadding between your string and flower-stalks, or the stalks will be injured. A bit of damp wadding as a coverlet and the box is ready for fastening down. If these instructions be faithfully carried out and the flowers fail to arrive at their destination in good condition it will be owing to some unforeseen mishap, not from the fault of the method employed, for I have packed

joy your friend will have in watching the blooms expand and improve for a day or two instead of seeing signs of decay which might be looked for had the blooms been old when cut.—J. DUNCAN PEARSON, *Lowdham, Notts.*

HOME-GROWN TULIPS.

I THINK your readers may be interested in the enclosed picture of May-flowering Tulips cultivated in a small Tooting garden. Mr. W. O'Sullivan, the garden owner, grows his own bulbs—3,000 of them—and, necessarily, grows them each season on the same ground. There are



TULIP FARMING IN A SUBURBAN GARDEN.

and had packed perhaps hundreds of lots of choice flowers for post and rail, and do not remember one case of an arrival of dead or bruised blooms. All this may seem a lot of trouble, but, after all, it always means time and trouble to cut and send off flowers, and surely it is better to give a little more time and get good results than to do the work hurriedly and hear of dead or moribund flowers arriving at the other end of their journey. A last word: In cutting Daffodils to post to your friends, always select the half-open buds. You will get far more into the box, and think of the

180 varieties in his collection. Mr. O'Sullivan is strongly of the opinion that British-grown bulbs are better than Dutch. His soil is of the light sandy texture suitable, with good cultivation, for these flowers. I am sorry I cannot send you a better photograph, but the hot weather, as you will doubtless be aware, has "knocked off" such flowers very rapidly. The picture will at any rate suggest what an array there has been. Although grown in such large masses, the bulbs are very skilfully arranged to prevent clashing of colour.—H. C.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

New Zealand Spinach.—Where the soil is very light and porous this is an excellent variety to rely upon to produce a regular supply of leaves during the hot weather. Probably the best way is to sow in boxes under glass and plant out when large enough. This Spinach requires plenty of room for development and when planting allow from 2ft. to 3ft. between the rows and about 2ft. from plant to plant.

Outdoor Tomatoes. The plants may be placed into their fruiting quarters as soon as convenient, so as to get as long a season of growth as possible. Any vacant spots between fruit trees on warm walls or buildings, etc., are excellent positions for this crop and generally give much better results than planting out in the open. If the latter is the only available position, choose the warmest, and plant in rows running north and south on firm ground, not too rich. Allow a space of 18ins. from plant to plant and 3ft. between the rows.

Garden Swedes.—Where a large and regular supply of winter and early spring vegetables is required, these are an excellent help and they will stand more severe weather than Turnips. Seed may be sown any time from now until July in rows 20ins. apart.

The Flower Garden.

Annuals sown out of doors directly into their flowering quarters will repay early and free thinning, allowing each plant room for proper development. Half hardy annuals raised under glass should now be placed in their final quarters as soon as possible. Where any support is required for some varieties later, twiggy sticks will be found in the majority of cases to answer very well.

Specimen Plants in tubs or large pots grown for placing in positions about the grounds should be encouraged as much as possible to make good growth by an occasional soaking of a suitable stimulant. Great care is necessary in allotting sites for such plants for unless placed suitably in accordance with surroundings, etc., it is far wiser to keep them near an entrance to some conservatory or such-like structure.

Vases or Window Boxes are occasionally required for furnishing a balcony or terrace steps. Before filling such receptacles with fresh soil make sure that suitable drainage is supplied, placing over the same a layer of fibrous loam and some well rotted manure into which the roots may penetrate and obtain nourishment during the hot weather. The aspect should largely influence the kinds of plants to be used, but for a sunny position the ivy-leaved Pelargoniums are still some of the

best, while positions less sunny would accommodate Heliotropes and Fuchsias.

Fruits Under Glass.

Colouring Grapes.—To obtain well finished Grapes it is necessary to bear in mind a few practical points. It may be at once accepted as impossible to expect a really first class finish unless the roots are in a healthy condition. Apart from this, however, there are a few points for the beginner to give attention to. When coloration has just set in it is quite wrong at once to alter the daily routine of culture, for this will do precisely the opposite to helping to arrive at a good finish. Allow the practised routine to continue just as before and only gradually reduce atmospheric moisture, and arrive at a much freer circulation of air by the time colouring is well advanced. Keep the hot water pipes lukewarm day and night, with a little air on the house always. Under no circumstances must the roots of Vines suffer from dryness, and although such frequent applications of water are not required or advisable, when the ripening stage is well advanced as when in full growth, it will not harm in the least thoroughly to water Vines laden with ripe fruit so long as there is always a circulation of air and the hot water pipes are slightly warmed.

H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Earthing Up Growing Crops.—This is one of the most important points in the cultivation of kitchen garden crops. It is of special value to crops growing on stiff clayey soils where young plants have little encouragement to induce a downward tendency of the roots. Before earthing up takes place the soil should be thoroughly loosened and broken up between the rows with a digging fork.

The Brassica family responds quickly to this treatment, as the earthing process not only stimulates growth and encourages root action, but also serves to steady the young plants and prevents that swaying which readily damages the roots. Both Broad Beans and Kidney Beans enjoy this attention and will repay the trouble by a sturdy growth and more abundant yield.

Tomatoes.—Give a generous top dressing to plants that are carrying heavy crops, using good fibrous loam with a sprinkling of artificial manure added. Watering should also receive careful attention so that no dryness may occur at the roots, equal care being taken that the pots or borders do not get into a sodden state, as the Tomato quickly resents this. Keep all side growths rubbed off and tie in the leading shoot carefully.

Vegetable Marrows.—Plants for the principal crop will now be ready for transferring to the open. Plant on slightly raised hillocks composed of well rotted manure and good soil. Should the evenings prove chilly, some shelter may be afforded by placing short Spruce branches round the plants. See that the roots are moist before planting.

Cauliflowers.—Further plantings should now be made of Walcheren, Eclipse, and Autumn Giant. In gardens where the soil is cold and heavy, root action may be quickened by adding a trowelful of old potting soil to each plant.

Cucumbers.—Frame Cucumbers may now be planted and with abundance of solar heat will soon make rapid growth. Pinch the leading shoot when about 18ins. in length and thus encourage the quantity of lateral growths necessary for filling the allotted space. Syringe the plants during the afternoon and close the frame early enough to conserve a certain amount of sun heat.

The Flower Garden.

Thinning of Annuals.—This essential in the successful cultivation of annuals sown in the open must not be delayed, as early thinning allows for the proper development of the young plants. Choose a showery day for the work. Further sowings of annuals may yet be made over the site of Daffodils or Tulips that are permanencies in the border.

Border Chrysanthemums should be planted out without further loss of time, and where the young plants have been well grown by being transplanted in frames, they will lift with strong roots and quickly establish themselves in their flowering quarters. Chrysanthemums are charming when grouped in the mixed border and provide a wealth of bloom for cutting purposes.

JAMES MCGRAN.

(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

ORCHARD

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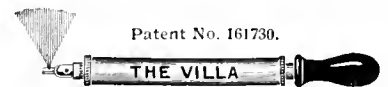
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THE PROPAGATION OF ALPINES

Few amateur gardeners sufficiently appreciate the opportunities for propagation afforded by warm soil and pushing vegetation.

JUNE is an exceptionally busy month in the hardy plant nursery, owing to the immense amount of propagation which may then be undertaken. The garden lover who propagates only for his own requirements may well follow the good example though he should not slavishly follow nursery methods. The nurserymen, for example, propagate his alpines into pots, since it is convenient for him and for his clientele to supply the young plants in pots. Certain choice small-growing species the amateur will also propagate into pots or pans, but the generality of furnishing plants for the rockery will be better propagated in a border, temporary shelter being afforded them while they are becoming established. Such plants will be much larger and more robust when wanted for transference to the rock garden than if they have been confined to a meagre quantity of soil in a flower-pot.

Given suitable mould in which to root them, the following are some of the plants which will be better without potting: all the Aubrietias, all varieties of Phlox subulata, Phlox amoena and P. ovata, Androsace carnea and related forms, Gentiana Gentianella, G. Kochiana, G. Clusii, the dwarf Achilleas, Antennarias, Herniarias, Arabises, Asters, such Campanulas as carpatica (including turbinata) and pusilla, Cerastiums, such dwarf Pinks as Dianthus caesus, D. superbus, D. sylvestris, D. deltoides and the cluster headed species—D. Carthusianorum and the rest—the Drabas (except D. pyrenaica), Erinus alpinus, the Erigerons, Ericas, Erysimums,

Geraniums, Erodiums, Geums, Globularias, the various species and forms of Edelweiss, the dwarf Gypsophilas, Hutchinsias, such Linarias as readily propagate by division, Liniums, Polygalas, practically all the Potentillas except nitida, most of the auricula-leaved forms of Primula and P. integrifolia, Saponarias, Sedums, Sempervivums, the mossy (Dactyloides) Saxifrages and most of the encrusted forms (but unless with special preparations, not the Kabschia varieties) the more robust Silenes, such as alpestris, Schafta and acaulis, Thalictrums, Vacciniums, Veronicas (herbaceous and shrubby), and the more robust Violas such as V. cornuta and V. gracilis.

It is not possible in the course of an article to describe minutely the propagation of each species, but the following hints as to the *modus operandi* for each of several distinct plants should

be helpful. As our first example let us take one of the various garden varieties of Phlox subulata. The variety is immaterial, as, although they differ materially in habit and outward appearance, their fundamental structure is similar. Let us carefully lift a two year old plant with a garden fork and carefully detach the soil from its roots. Should the soil in which it has been growing be light in texture and gritty, it may readily be broken up and removed with the fingers without materially damaging the rootlets, but if the plant has been growing in a rather sticky—though not necessarily heavy—loam, it may be necessary to soak the plant for a few minutes in a pail of water to separate roots from soil.

The roots free from soil, it is easy to see how the root-stock may be so divided up as to provide each portion of top with, at any rate, some roots.

Large pieces, equal perhaps to one quarter of the original plant, will look awkward when divided as the plant will, perhaps, be a couple of feet long, a little growth at one end and the roots at the other. Yet even such pieces will form useful plants if the spare stem and root is carefully wound round before planting so that all is buried except zins, or zins, of top.

Care must be taken in the bending or the brittle stem will fracture. Better still, where they are to be found, are the small pieces of year-old wood with a few rootlets at the base. These are quite straightforward to propagate. They merely need planting firmly in the compost. Large pieces and small pieces may all go under the same light, or if a light is not available, be subjected



READILY PROPAGATED UNDER LIGHTS, MOSSY SAXIFRAGES, ALPINE PHLOXES, ALYSSUMS, AND IBERISES.



THE BEAUTIFUL SANFRAGA LILACINA MAY BE PROPAGATED ON A "BARROW."



GENTIANA GENTIANELLA LOVES A STONY SOIL.



AN EASILY PROPAGATED ROCK PINK, DIANTHUS CÆSIUS.

to the same treatment, but if a large stock is required it will be necessary to take cuttings and as these have to form an entirely new root system the cuttings should be placed under a light by themselves. The cuttings should be made of one year old wood with a "heel" of the previous year's wood attached. These alpine Phloxes are readily rooted in any light gritty soil, not over rich in humus, but new soil from a light pasture is the best possible rooting medium. So quickly and readily do they establish themselves that for divided pieces a light is not really necessary. Scrim canvas shading or even sheets of newspaper held in position on the plants on hot sunny days by large stones will afford them the needed assistance.

The method of propagation outlined for alpine Phloxes will exactly apply to the Aubrietias, but as these latter do not love sunshine and heat as do the Phloxes, more protection will be necessary to prevent excessive transpiration and, should it be a hot summer, they will need more aftercare. The Erysimums need very similar treatment, but small rooted pieces are as a rule not easy to find and cuttings often have to be pressed into service. Such things as Hutchinsia are exceedingly easy to divide.

The Gentianella is quite easy to divide and it is astonishing to find how much larger a lifted clump is than it appears. Next year's growths are then exposed as stout "wires" and careful lifting is necessary to prevent these being broken off. The Gentianella loves stony ground and it is wise to introduce coarse gravel into the propagating bed and to press a few pieces of stone around the collars of the plants. Gentiana Kochiana also likes stones. It will grow in any lime-free soil, but the introduction of a little peat is helpful. G. Clusii must have lime and this is best afforded by using old mortar rubble in the compost.

The "Mossy" Saxifrages should be divided carefully and placed in gritty soil in a border which gets shade from the mid-day sun. They may succeed in the open garden nine years out of ten, but in a really droughty summer it is almost impossible to keep them alive in such a position. Pieces of stone placed round the little clumps as they are planted will help to retain the moisture and will also protect the crowns from splashing by heavy rain, and splashing often causes rot to set in.

The encrusted Saxifrages may readily be propagated outdoors if a stone-edged "barrow" be formed and they be planted therein sideways. If well rooted pieces are used no light will be necessary. Even the stronger-growing of the beautiful tufted (Kabschia) Saxifrages may be readily increased on such a barrow. Species which come to mind as suitable are S.S. apiculata, sancta, Pseudo-sancta and Rocheliana.

The Heaths are, in nurseries, usually increased from cuttings, but this method is painfully slow and the amateur may, with a little forethought, increase them quite rapidly by division. It is, quite apart from propagation, very desirable to plant Heaths very deeply, thus making the tops compact and neat. Their subsequent behaviour will largely depend upon the compost in which they are growing. Should this be peaty, they will grow rather loosely and will comparatively soon need dividing and re-planting, but in light gritty and, of course, lime-free soil, with no appreciable peat content, they will grow close and dwarf. In any event such deeply planted plants are easy to propagate as they will be found to root right up to the surface of the ground and so may readily be increased by division. It is not wise to cut off the lower roots when planting. The plants do much better if these are curled round in the manner recommended for the Phloxes.

There is no need whatever to rig up a range of Cucumber frames for alpine propagation. A few 6ft. by 4ft. lights, or even smaller ones if needs be, and a "box" or two made of lin. board, 7ins. wide, set on edge and nailed together to form a rough frame for the lights are all that are necessary.

Archangel mats or scrim shading applied as required are better than any form of permanent shade. In a future issue it is proposed to describe the propagation of some choicer alpine both outdoors and in pots and pans, an especially interesting pursuit.

ST. BRIGID ANEMONES

Fresh visitors to the Royal Horticultural Society's Meetings at this season always remark upon the beauty of these by no means difficult garden flowers.

THE above name has been given to a semi-double strain of the Poppy Anemone (*A. coronaria*), which was introduced from the Levant in 1596, but also grows in South Europe along the Mediterranean littoral. The species has always been more or less popular in this country, and Parkinson enumerated thirty varieties in his day, while Mason in 1820 catalogued seventy-five varieties.

colouring of the flowers are so characteristic in their way that they should become as indispensable in the garden as the Tulips, with which they do not compete. This may be the case when the younger generation of admirers has acquired the art of cultivating the plant with success.

THEIR PROPAGATION.

As in the case of the tuberous Begonia, the tubers may be divided and every piece will grow,

The soil for rearing these Anemones should have a heavy dressing of leaf-soil or half-decayed leaves and road grit or coarse sand. Dig this deeply or even twice thoroughly to incorporate the different materials, level the bed and rake it smooth. Draw furrows less than half an inch deep, so that the seeds will only be lightly covered, and the lines 10ins. to 12ins. apart if the bed has to be kept clean by hoeing. Six inches apart will be sufficient if hand weeding is practised. Give water at frequent intervals during droughty periods. A top-dressing of rich soil will greatly benefit the seedlings as they begin to grow. Many of them will bloom during the following April if given a fair amount of attention to keep them growing during the warmer part of late summer.

SOIL AND PLANTING.

The soil for these Anemones should be friable, and contain some gritty matter in it. The soil from whence the flowers have been brought to this country from Ireland is light and sandy, perhaps too sandy for open situations in droughty seasons like the last, but Ireland has usually a greater rainfall than we get in Britain, except towards the western seaboard. They are now being tried by the Irish growers on the heavier soil of West Middlesex. The soil should be dug 15ins. to 18ins. deep to get the best results, and it should be well drained, if not naturally so. Half-decayed leaves or leaf-soil should be used instead of animal manures, and this should be well incorporated with the soil while digging, not put in layers. Old turf is also excellent material to mix with the soil.

Skilled cultivators with a suitable soil can plant the tubers in almost every month of the year to get a succession, but experience has proved that the middle of October and the end of January are the two best times for planting in England. The middle of February would be more suitable for the north of Scotland. In favourable winters the finest flowers are obtained from the autumn planting. Some protection is needed for this planting if the flowers appear before sharp frosts have ceased. The tubers are best planted in beds at 6ins. to 7ins. apart and 2ins. deep. They can be planted with the trowel. Some cultivators put some silver sand below and above the tubers, especially in the North. The surface should be raked level and smooth before commencing to plant. The hole should be sufficiently wide for the tuber to be laid flat, and not much pressure should be used on the soil when covering them, otherwise some of the crowns or growing points are liable to be crushed, as they are rather brittle. Be careful to keep the right side upwards, and this can usually be recognised by the knobs on the top. A few fibres, the remains of the roots, may usually be detected on the underside.

AFTER-TREATMENT.

It is a good plan to cover the beds with 2ins. of half-decayed leaves for protection; but it may be necessary to liberate some of the foliage and flowers if they have a difficulty in piercing undecayed flakes of leaves in spring. This mulching will prove highly beneficial to the plants during spells of drought in April or May. Some cultivators mix well decayed stable manure with the leaf-soil in spring, and this top-dressing serves to nourish the plants as well as to preserve soil moisture. Autumn-planted tubers will bloom in May and spring-planted ones in June. It is good practice to lift, dry and store the tubers immediately after the foliage has completely died away and before any second growth has commenced. Where the soil is of a light character it may be possible to cultivate St. Brigid Anemones by leaving them in the soil for some years till the ground requires renovating or the tubers require to be replaced.

HORTICULTURIST.



ST. BRIGID ANEMONES.

Single, semi-double and double varieties were produced by British and Dutch cultivators early in last century.

St. Brigid Anemones are an Irish strain that has for many years past been developed to great perfection, both as regards size and colour. In the height of their season the blooms will measure 3ins. to 4ins. across. The colour ranges from white to rose, mauve, purple, crimson, scarlet and deep blue, with intermediate shades. Some are distinctly zoned with white, rose or red, others are parti-coloured. These have all been obtained by seed sowing and the selection of the brightest colours or those combinations of colours that most appeal to the sense of taste. The development of this strain has given a great impetus to the cultivation of this old garden flower, and its great beauty in the garden as well as its suitability for cutting and arranging in vases of water indoors marks it down as a plant of general utility. The dwarf habit of the plant, form and brilliant

provided it has a knob or growing point with one or more buds upon it. As a rule, large tubers should only be cut in half for bedding purposes, and smaller pieces cut off only for the increase of some special variety. Small pieces require to be grown for a year or two to get them to useful flowering size.

For general garden decoration a better way for getting a quantity is to rear them from seeds. The best time to sow seeds is as soon as they are ripe, say, some time in July. The seeds are enveloped in a woolly covering that makes them adhere in masses, so that regular and thin sowing is a matter of some difficulty. This can be surmounted by putting the seeds in a bowl, mixing them with sharp sand and rubbing the two with the fingers till they get mingled in equal proportions. Thin sowing will prevent the necessity for disturbing the seedlings till after they have flowered. The seedlings will germinate in a month or less, and keep growing till November.

GORGEOUS HIPPEASTRUMS

I AM watching just now with especial interest the rapid growth and development of the buds of the Hippeastrums (Amaryllises, many gardeners still call them). This is a batch of seedlings now pushing up buds for the first time, full of promise and pregnant with possibilities. The air seems charged with expectancy as, day by day, the stems elongate and the great buds grow fatter and fatter. What will they be? Who can say? In this case the seeds have not—so far as is known—been "crossed" with others; they were merely "mixed," handed on by a friend, but the future holds possibilities, and I feel that I must "have a finger in the pie" and a "say" in some of the inter-marriages that shall take place in that greenhouse.

These plants are among the most handsome and gorgeously coloured that can be grown in a greenhouse which is only moderately heated, and the ease with which they can be grown is each year making them more and more popular.

The name "Hippeastrum" is derived from *hippeas* (a knight) and *astron* (a star), and the present race of plants is the result of numerous crosses carried out among the natural species. To ensure success in their culture, good and suitable soil is the starting point upon which all else is founded. The large bulbs appreciate a heavy rather than a light loam, to which a moderate amount of sand, bone meal and well decayed cow manure has been added. This should be prepared some time in advance of use and should be turned several times at intervals, so that it is thoroughly mixed. Such soil will suit them to perfection, being strong and lasting, and there can be no doubt that the less the roots are disturbed, beyond actual necessity, the better. While some prefer to give the plants a season of rest, this is by no means necessary; the natural habit is evergreen, and I much prefer to keep them growing throughout the year.

Potting or repotting should be done in spring, just when new growth begins to appear, for that one may take it is synonymous with renewed root activity, and so is the most favourable time. The bulbs should have all the old soil carefully removed from the roots. This affords, too, a good opportunity to remove all easily detached offsets for purposes of propagation. The size of the pot employed differs with varieties, some making much larger bulbs than others, a 5 in. or 6 in. pot being sufficient for a 3 in. bulb, the 8 in. to 10 in. for a larger one with offsets that are not to be removed.

It is a great mistake to overpot, a good average being about twice the diameter of the bulb or clump of bulbs. Drain all pots very efficiently; stagnant water round the roots soon causes sickly foliage and, if allowed to remain, rots the bulbs. Make the soil quite firm, and plant the bulbs so that one half is below the soil and the remainder exposed. After potting, it is a good plan to sink the pots to the rim in a bed of leaf-mould or coconut fibre with a steady bottom heat, although this is not essential: they will start, although more slowly, if stood on the staging where the temperature is between 55° and 75°. The plants love plenty of light, need but little shading and appreciate free syringing with tepid



SOME HYBRID HIPPEASTRUMS.

water. As foliage growth increases, larger supplies of water should be provided at the roots. Newly-potted bulbs do not require feeding the first season, but in subsequent years liquid manure may be generously supplied as soon as the flower buds appear, continuing this, varied by plain water, until leaf growth is completed. It is really astonishing how long the plants can be kept growing in the same pots and soil by thus feeding regularly all through the growing season.

A fine group of plants that is well managed in the matter of soil, feeding, temperature, etc., presents a splendid sight indeed when the great buds expand into enormous flowers, 8 ins. to 10 in. across, varying in colour from the deepest blood crimson and scarlet to pure white, each broad-petalled flower usually showing a lighter band down the centre tinted with green.

These flowers are of equal interest with those of the tuberous *Begonia*, the *Hollyhock* and many another garden aristocrat, in that they have been produced almost solely by the patience and skill of man in hybridising numerous wild species. The history of the *Hippeastrum*, indeed, starts with a very humble beginning, for it was a Lancashire watchmaker, of the name of Johnson, who in 1799 raised the first hybrid, a cross between *H. vittatum* and *H. reginae*, and this he named after himself, *H. Johnsonii*. M. de Graff, of Leiden, took the plants in hand in 1830 and began crossing on a large scale, using such varieties as *H.H. Johnsonii*, *crocatum*, *fulgidum* and *vittatum*. In 1861 fresh blood was brought into the strain by using *H. pardinum* and, a few years later, *H. Leopoldi*. From then onwards development went forward apace, the larger flowers, greater vigour and freedom of flowering that characterise the plants owing much to the two last named Peruvian species.

The plants are not only very easy to raise from seed, but cross with equal facility, thus giving special opportunity to those who wish to experiment. Seeds should in all cases be sown immediately after they are ripe, covering very lightly with finely sifted earth. Constant watering is not desirable, and to obviate this the pans containing the seeds should be covered by a pane of glass until the young plants spear their way through the soil. The temperature should not fall below 60°, and in about a week the young plants will be through the soil. Keep the atmosphere humid, as this encourages quick growth, and as soon as large enough transfer to single pots, repeating this potting as often as necessary to ensure steady and continuous progress.

If you are intending to cross varieties the anthers should be removed from the tips of the stamens—when in the floury state—and dusted on to the three pointed stigma of another flower that is in a suitable condition. The receptivity of the stigma and the ripening of the pollen are not synonymous in the *Hippeastrum*, the pollen being mature about three days before the stigma is ready for fertilisation. Another point that is worth considering when making crosses is the breadth of the petal from which the pollen is procured. The back petal is always the widest, the two side ones slightly narrower, while the lower one is the narrowest. It has been suggested—and probably with good reason—that pollen taken from the anther which springs from the widest petal carries the factor for increased width; the trial, at any rate, is worth while. Every possible care should be taken in selecting both the seed parent and the pollen, and it is a wise precaution to repeat the cross two or three days after the initial attempt.

The *Hippeastrum* is not much infested by insect pests, although, under careless culture, aphides, red spider, mealy bug and scale will all attack them; these visitations are largely the reward of neglect, light fumigation from time to time being sufficient to ensure freedom. The *Eucharis* mite is another question, however, and this little wretch will sometimes attack the bulbs. Should this occur, and if the damage has not gone too far when discovered, the damaged roots and scales may be stripped from the bulbs, which should then be thoroughly washed in a solution of liver of sulphur. They should be replanted in fresh soil and stood in a place by themselves so that they may be kept under close observation for a time.

Although I have spoken of my seedling plants as on the point of flowering, it should not be overlooked that the flowering season is quite an elastic one and can be controlled so as to give a very

prolonged season by placing some plants in a genial temperature, so encouraging early flowering and growth, while others are kept cooler and brought in, in a succession, to the higher temperature so as to provide a long succession of flowers.
H. W. CANNING-WRIGHT.

COLOUR EFFECTS IN THE FLOWER GARDEN

BY GERTRUDE JEKYL, V.M.H.

IT has been suggested that occasional notes throughout the summer under this heading may be of use and encouragement to some who may wish to use colour pictorially. Those who have once attempted this, and who have met with some measure of success, will always be trying for something more in the way of beautiful combinations and sequences. The word "colour" as applied to gardening, to many means only bright or even garish colour, something that attracts or attacks the eye by its own intensity. To the garden artist it means the employment of intentionally related or, in some cases, contrasted colouring, with the result that, while at certain points or in certain regions the most intense colour may be displayed, it has a quality of splendid richness that is the very opposite to garish vulgarity. These notes will make mention, as they occur, of some combinations that have proved successful, in the hope that they may suggest to others the study and practice of one of the most delightful and repaying of horticultural experiences.

A small section of the garden that is devoted to spring flowers has them arranged thus: On entering, there is a grouping of white and pale yellow with a gently contrasting ground of pale blue. The flowers are the Poetaz hybrid Narcissus Elvira with palest yellow bunch Primroses, and Tulips White Swan and Moonlight (faint yellow), followed by Tulipa retroflexa. The groundwork of Primroses runs into one of the pale blue Myosotis dissitiflora towards the front, and the two grounds mingle, not mixed up, but joining like the interweaving of two streams of ravelled thread. A patch of Alyssum is the strongest yellow here. The Forget-me-not trickles into a front drift of pale Aubrietia to meet patches of double Arabis. The Aubrietia darkens in colour and joins a further front planting of a rich purple Viola gracilis, backed by some little bushes of the purple leaved Sage, one of the most useful of the background plants of the spring garden.

A word about Aubrietia. I am of opinion that the truest colour of this useful spring plant is of a medium light tint. The fine dark Dr. Mules is a splendid thing, but, like many good things, it is best used with some restraint. A bold drift of Aubrietias of, say, fifteen plants of what I hold to be the type colour, with four or five plants of Dr. Mules worked in towards the back, has a much more telling effect than if the whole was of the deeper colour. The fine kind called Lavender is a good example of sweet and tender colouring with a rather large flower; but a packet of seed of true Aubrietia græca, a little deeper than Lavender, but still within, will give what I hold to be a good type colour of the plant. I am shy of the reddish varieties; at best they are a poor or heavy kind of red, but some pale pinks, such as Barr's Bridesmaid and Moerheini, are pretty and useful.

The continuation of the spring flower border has Tulips, purple and white, with a backing of purple Wallflower and the dark Honesty. The purple Wallflowers intermingle with the same in rich brown, which again pass into those of a

deep flaming orange, Sutton's Fire King and Orange Bedder. These are interplanted with tall Tulips, deep yellow, orange, brown and scarlet, in a further range of dark brown Wall-

flower. The whole of this is backed by some compact bushes of deep yellow and orange Azalea mollis, with a further backing of Berberis Darwinii and small Japanese Maples of a rich red-brown.

THE TREATMENT OF CHRYSANTHEMUMS

Plants in pots and also those in borders will require constant attention if they are in due course to yield a rich harvest of blossom. The final potting or planting out does not mean that all the important work is done.

WELL remember the time when such varieties as Mme. C. Audiguier and Belle Paule were grown and thought much of. I grew them myself for the production of exhibition blooms about thirty years ago;

the first named attained to a height of 15ft., and the latter to 13ft. Being grown on the south side of a garden wall, I used to stand on it when tying in the shoots and "taking" the buds in August. There were many varieties grown at that time that attained to a height of 7ft. to 10ft.; such tall growers would not find much favour in these days of comparatively dwarf sorts. In the days above referred to one long stake was placed in the soil in the pot and two side stakes made secure to two strands of wire, and the plants were often much broken in the autumn-time by strong winds. Amateur cultivators at the present time may make their tallest-growing varieties quite secure by using one wire made fast to posts so as to be about 3ft. 6ins. above the rims of the pots. Three stakes may be used, from 4ft. to 6ft. in length, and driven into the soil in each pot in the case of plants grown for bearing exhibition blooms, so that the specimens are held upright and firmly when the time comes for placing the plants under glass. Before the month of June is past all the necessary stakes should be fixed in the pots not only with a view to affording support in good time, but also to avoid destruction of the roots when, later on, the new soil becomes thoroughly permeated with them.

Watering is a very important part of the general management of these plants. If the new soil is kept in a constant state of excessive moisture—always sodden—new roots will not enter it, the foliage will turn yellow and many lower leaves will fall off. Neglect to apply water when it is needed will also have a bad effect, causing loss of leaves, stunting of growth and premature bud-formation. If the pot gives out a clear ring when tapped with knuckles or stick the soil is dry, and sufficient water must be applied to permeate the whole of the soil through to the drainage. Just before real dryness again occurs,

water as suggested above. In rainy weather it may be that the surface soil will be moist, while the great bulk of it is actually dry. Pay close attention to the plants' appearance and also the "ring" of the pots,



AN EXCELLENT DECORATIVE CHRYSANTHEMUM, YELLOW CAP.

and water even while it is raining if the ball prove dry.

Do not apply liquid manure before the roots are numerous in the new compost. When the pots are fairly full of roots begin with weak doses of clear soot water, and vary the feeding as much as possible. The object should be to keep the plants moving forward, gaining strength week by week, so that they will be really robust when the buds are being secured during August and the early part of September.

Specimen plants bearing from nine to twenty moderately-sized blooms are really very attractive in a greenhouse or conservatory. Having made a selection of the main shoots, the necessary stakes should be placed at once. The stakes should point outwards at an angle of about 60° the form that the plant will eventually assume. It is a rather difficult matter to stake or support such large specimens against strong winds, and I find it a good plan to sink the pots in the ground to about half their depth, putting a handful of cinders or broken clinkers under each pot to afford sound drainage. It will be advisable to stop the plants a second time to secure the number of stems and blooms, but the last stopping should not be at a later date than the last week in June.

Border plants are becoming more popular every year, and they now form an important feature in most gardens. Many of the varieties used for this purpose are dwarf growing and so do not require much staking. Those which do should

be so staked that their habit of growth is not altered and the stakes not noticeable at the time when the plants are in full flower. Soot water and liquid manure should be applied in due course to help the plants to bear fine flowers. G. G.

A COOL-GREENHOUSE BULB

The genus *Babiana* gets its name from a Dutch word meaning baboon, because these animals are very fond of the bulbous roots. It would not have mattered very much from the garden point of view if they had made a meal of all the strictas provided rubro-cyanea was left. It is out and out the most taking of them. Nothing can well be more striking, and I may add more

picture—not a particularly good one—was published in the *Botanical Magazine*. It is still scarce and seldom seen. This need not be, for there is no difficulty in connexion with its cultivation.

With us it lives with the Freesias, the only difference in the yearly cycle between them being that the *Babiana* is not potted until September,

the season with the scythe or even, where considerable areas are involved, with the mowing machine, or, perhaps better still, along the skirts of woodland, where there will be little growth of grass to cause trouble.

Once placed in the reserve garden, the bulbs must not be forgotten. Immediately the foliage is quite dead they should be lifted for storage, cleaned, sorted and dried in a moderately cool place and put away, carefully labelled, until planting-time comes round. Narcissi, in particular, have the shortest of resting periods and if left even a week or two when thoroughly ripe will almost certainly be found to have made new roots. Most growers consider it a mistake to plant Tulips too early, but this in no way applies to Narcissi, and if it is proposed to naturalise them and the ground is ready, there is no reason why they should be dried at all. They may quite well be consigned again to Mother Earth straightway.

If in "permauent" positions—that is, sites where they may each year ripen off without being an eyesore—Narcissi may remain undisturbed for a number of years, until, in fact, they show obvious signs of becoming overcrowded. The same applies to the Snakesheads and other *Fritillarias* naturalised in woodland or shrubbery, the various *Scillas* (including Bluebells), Snowdrops and the Glory of the Snow. The Crocus, however, needs replanting every two or three years, owing to its habit of lifting itself out of the ground. The Crocus, like the Tulip or Gladiolus, and unlike the Narcissus, forms a new bulb each season, the old one withering away. The new bulb is built, as it were, on top of the old one; hence the tendency of the Crocus to come above ground.

Soft-skinned bulbs, such as Lilies, *Fritillarias* and *Erythroniums*, should not be kept out of the ground longer than is absolutely necessary. The longer they can be left undisturbed, so that they do not become overcrowded, the better. It is very difficult so to time the lifting of the Crown Imperial, *Fritillaria imperialis* or the Madonna Lily, *Lilium candidum*, so that the bulbs are free from roots. Both should be lifted, if lifted they must be, just before the old foliage seems entirely dead, and the sooner the bulbs are replanted the more quickly will they overget the disturbance.

The florists' Hyacinths, forms of *Hyacinthus orientalis*, are generally supposed not to succeed permanently in Britain, but if lifted carefully from the beds and replanted in light but moderately rich soil, many bulbs will flower and increase year by year until they have formed considerable clumps. The flower spikes they will produce will not, it is true, be first size, but they will be very effective none the less, both as growing and for cut flower.

The storage of bulbs, like that of Apples, seems to present great difficulty to some people. It is a mistake to overdo drying in the sun; indeed, it is better to manage even the first rough-drying in an airy shed if possible. Direct sunshine is no good to Tulips and Daffodils; it is extremely detrimental to softer bulbs.

Once the bulbs are dry and stripped, an equable but rather cool temperature in an atmosphere just too dry to encourage growth is best. Too dry an air will cause the bulbs to shrivel. It is, in any case, not difficult to keep the bulbs dry enough in summer-time, and the wise gardener puts his bulbs (with the possible exception of Tulips) "to bed" early.

It may not be out of place to point out that hot summer days afford a fine opportunity to fallow and clean ground intended for bulbs this autumn. Such weeds as Couch Grass and Ground Elder, in particular, should have war waged upon them.



A PAN OF THE BEAUTIFUL *BABIANA STRICTA RUBRO-CYANEA*.

beautiful, than a well grown pan such as that illustrated. Each bloom consists of a central circle of a pretty shade of bright crimson with a surround of a lovely soft shade of blue. Like *Lilias*, they only expand in sunlight, but no one should be put off growing them on account of this. It only makes us value those precious hours all the more. As long ago as 1768 its

whereas the Freesias are started in August. Probably this need not be, and it would be quite right to start both at the earlier date. The little stock of rubro-cyanea grows larger each year, and I have a small pot of home-raised seedlings coming on which is undesigned evidence in favour of the treatment they receive being correct. JOSEPH JACOB.

THE CARE OF BULBS AFTER FLOWERING

MANY good bulbs every year are spoiled after flowering through carelessness or want of knowledge. If bulbs are to be left in borders for another year the foliage should on no account be removed until it has withered. Where summer bedding has to follow on, the bulbs must, of course, be lifted, which, however carefully undertaken, is detrimental to them; yet if the work be carefully performed, and especial care be taken to break the roots as little as possible, no great harm should ensue to such things as Crocuses, *Scillas*, Tulips or Narcissi if they be replanted quickly in the reserve ground, well watered in and afforded protection from hot sunshine. A

wall or fence is, of course, a ready-made and very efficient protector.

The necessity for a proper ripening-off of the foliage is the fatal drawback to the planting of bulbs in mown sward. All goes well until flowering is over, and then either the bulbs must be sacrificed or the appearance and, perhaps more important, the permanent well being of the green. Crocuses, for example, ripen off considerably earlier than Daffodils, but, even in their case, it is easy to see, the season through, by the patches of coarse verdure where the bulbs displayed their springtime beauty.

Bulbs, then, should be naturalised either in rough herbage, which may be cut, say, twice in

THE INVALUABLE PÆONY

EVERY gardener ever I met liked Pæonies, but tastes differ, and this is the season for the pencil and notebook to note down coveted sorts in one's neighbour's garden. Some there be whose fancy runs to the old double-flowered forms of *Pæonia officinalis*—*rubra plena*, *rosea plena* and *alba plena*, a grand, if changeable, trio! for all three change the colour of their expanded flowers.

To others none but the single forms make appeal, and certainly these are among the most chaste and beautiful of flowers. There are at least three single forms comparable to the old double favourites above described. These are *P. officinalis* vars.

blanda, *lobata* and *rosea*. Then there are beautiful species such as the red-flowered *tenifolia* or *Pæonia lutea*, as well as a wide range of colour in single-flowered forms of the Chinese Pæony, *Pæonia sinensis*. It may suffice to mention *Nymphe*, a lovely creamy white sort; *Victoria*, brilliant crimson, golden anthers; and *albiflora grandiflora*, with lovely white and gold saucers.

Of the double Chinese forms it is difficult to make a selection, but those who like a large, bold flower will be attracted by such as *Festiva maxima*, with large pure white blossoms, each relieved by a few rose petals, the fragrant pure white *Duchesse de Nemours*; *La Fraicheur*, with a mat

of sulphur petals surrounded by a ring of blush-pink guard petals; the somewhat similarly coloured *Thorbeckii*; the rich amaranth *Gloire de Douai*, or the purple and very sweet scented *François Ortegat*.

The Pæonies take a little time thoroughly to re-establish themselves after removal, so should be planted where they are intended to remain and spaced a fair distance apart. They have brittle, fleshy roots, so that, though they will survive if moved at any time when dormant, they are best transplanted fairly early in autumn before the foliage is quite decayed. The roots are then sufficiently active to heal up and prevent root-rot setting in. Pæonies, like the Bearded Irises, have a foliage so beautiful in itself as to render the flower but a part of their attraction. The spring, bronzy stems and foliage are an admirable foil for Daffodils and other bulbs. The leaves expand, disclosing the characteristic and interesting-looking buds which in turn give place to the weighty balls of the double sorts or the jewelled chalice of the single ones. The flowers sometimes pass, if left, to interesting seed-vessels, but the cultivator usually removes these to maintain the strength of the plant. The foliage is beautiful all summer and may be used discreetly to veil the uninteresting lower parts of certain otherwise valuable plants, such as the Anemuses, Hollyhocks, Dahlias and even Delphiniums. With early autumn the leaves take on delightful tints of russet and crimson, so that the Pæony may justly claim to be interesting and beautiful from the time when first its leaf stalks commence uncurling to the day when, its year's cycle completed, it slumbers to await another spring.

The herbaceous Pæonies, for the Tree Pæonies need special care and different treatment, are hardy enough and may safely be planted in any part of the country, but if protection from the east can be provided so much the better, for a rimy spring frost caught by the early morning sun's rays will sometimes scorch and disfigure the unfolding foliage.

H. H.



A TYPICAL SINGLE PÆONY—PÆONIA ALBIFLORA THE BRIDE.



ONE OF THE FINE OLD DOUBLE PÆONIES—P. OFFICINALIS ROSEA PLENA.

WHY NOT INSTAL GLASS?

The amateur's present opportunity

FEW gardeners nowadays need instructing as to the value of glass, whether it be in the shape of greenhouses or in the humbler forms of pits and frames, in the well cultivated and efficiently kept garden. There is a universal consensus of opinion upon its general value, indeed one might almost say upon its indispensability. But it is doubtful whether the many and varied uses to which the possession of glass facilities may be put is understood by most gardeners or whether all of us realise that glass is a practical proposition within the reach of practically the humblest purse and the smallest garden.

In the not far distant past, few amateur gardeners could afford either to build houses or repair them, or even to instal panes, owing to the high cost of all the requisites. Fuel, timber, heating-apparatus, and glass itself rose in price like all other commodities, and there was not (at any rate immediately after the war) an unlimited supply to meet the demand. Recently all this has changed. The costs have fallen by percentages which are staggering. Thus British glass the best for horticultural purposes is 40 per cent. cheaper; fuel, both slack and coke, only about half its former price, and wood is easily 45 per cent. lower. Even heating apparatus

is about a third of what it was formerly so that it is impossible to name any horticultural building requisite (including labour), which is not at a temptingly low rate just now. Moreover, it is unlikely that these requisites will become lower; according to expert opinion they have reached their minimum, and it is quite possible that prices may recover somewhat in the near future. Therefore, the amateur gardener will act wisely in taking immediate advantage of the present situation so favourable to himself, especially as it may not last. The great glasshouse growers, the big professional nurserymen and the like have hardly yet recommenced making good the wartime dilapidations or entering upon fresh building plans; when they do, the increased demand may possibly be reflected in an enhanced price of all materials. Therefore, the private individual should buy and build now—while prices remain favourable and while full quantities are available, thus obviating delay.

In a May like the one we have just experienced, with frosts occurring in the mornings and a 20° fall in temperature in a day or two, the value of the protection afforded by glass is obvious. Even the humblest frame or pit with glass sashes (or "lights" as they are generally called), must have been of untold usefulness to its possessor during this abnormal spring in preserving seeds, bulbs, and young plants from Jack Frost. Then again, they have their summer as well as winter uses, for they afford a convenient means of sheltering delicate plants from scorching suns or heavy rains or hail. Apart from their purely protective purpose the exceedingly great utility of pits is worth special notice even by those gardeners who can afford more elaborate forms of glass structure. For example, pits should be employed for bringing a good stock of plants forward so that when the large houses are built they may present a gay appearance immediately and not remain for some time imperfectly furnished. The presence of pits, too, enables this procedure to be subsequently maintained from the supply which pits in good working order can afford.

With heat at command, too, pits are useful for propagation purposes and for forcing vegetables, flowers and fruit, as well as for nursing plants intended for the larger structures, in the way explained above. They are so easy to construct that an intelligent schoolboy can make them, being essentially no more than a wall-enclosed space with the glass "lights" on top. The cost need be only a few shillings, for it is by no means essential that the walls should be of brick or stone, and boxes of earth or army sand bags or turf sods can be utilised. Their size is a matter for the idiosyncrasy of the individual, but useful proportions are a 2 ft. back wall sloping to half that size in front, with about 4 ft. from front to back.

The ordinary wooden frame with a glass top is so familiar as to call for no detailed description, and excellent specimens admirably adapted for various purposes may be got from the numerous firms engaged in horticultural building work. One advantage of the frame to the small gardener is that it need not be a fixture and can be moved if necessary. The wall-frame—a more elaborate type than what may be termed the box-frame—is useful for protecting wall fruits, such as Peaches and Nectarines against late spring frosts and assisting in ripening them. It consists of covering walls with glass so that they form, in fact, a narrow house, and it partakes more or less of the character of a lean-to greenhouse. A lean-to greenhouse need be little more costly, however, than the wall frame, and it is generally worth while for the gardener to go to a little more expense, because the area enclosed is greater and he can have a command of heat. The lean-to form of house is very generally

adopted in cases where a small house is required and, of course, it enables one to take advantage of a wall already built. Plants grow there very well, but not quite so symmetrically as in span-roofed or other structures that admit light on all sides of the plants.

During recent years the importance of light for vegetation has become better known than formerly, and great improvements in the construction of greenhouses and conservatories have followed. The old-fashioned dark roof, not made of glass, is an abomination of the past. Nowadays the indispensability of glass in the roof, back and ends, as well as the front is generally recognised, for to admit light should be the aim as much as possible, and if this be kept in view and with the means of admitting air, any form of glass-house may be adopted according to circumstances. And, as already pointed out, the present is, so far as the amateur gardener is concerned, an exceptionally favourable time for the installation of glass in any form.

THE CROWEAS

These readily propagated and easily grown hard-wooded plants are not sufficiently appreciated.

THE Croweas form a small genus of pretty flowering shrubs, natives of Australia. At one time it was considered that there were several distinct species, but they have now been reduced to two, namely, the graceful-habited *Crowea angustifolia*, and the larger and more sturdy-growing *C. saligna*, often met with under the specific name of *latifolia*. This last, which will often flower during the winter months, forms a freely branched specimen clothed with evergreen, willow-like leaves. The flowers, which are of a clear deep pink colour, are very freely borne. The leaves of *C. angustifolia* are exceedingly narrow, while the starry flowers, which are produced from the axils of the leaves, are of a delightful shade of pink. The blossoms of *C. saligna* are much less star-like in shape than those of *C. angustifolia*. This last was given an award of merit by the Royal Horticultural Society on March 28, 1905.

The charm of novelty cannot be claimed for either, as *C. saligna* was introduced from New South Wales in 1791; and while I cannot find the date of the introduction of the other, it was certainly grown by our forefathers.

The Croweas, which belong to the Order Rutaceæ, need the same treatment as the general run of hard-wooded plants; that is to say, they must be potted firmly in a compost mainly consisting of peat, with the addition of a little loam and silver sand. Like Heaths and similar plants the pots prepared for their reception must be clean and effectually drained, while it is very essential that the old ball of earth be not buried deeper than it was before. A light, buoyant atmosphere just meets their requirements, and a minimum night winter temperature of 45°, rising during the day, will suit them well. The temperature named applies only to cold weather, as at all times an excess of fire-heat should be avoided. Watering, too, must be carefully done. Cuttings of the half-ripened shoots will strike in a compost made up of peat and sand pressed very firmly and covered with a bell-glass. By some cultivators they are grafted on to one of the Eriostemonas, as in this way they are considered to make stronger growth. The young plants need to have the tops pinched out once or twice during their earlier stages in order to induce a bushy habit.

H. P.

THE VALUE OF MULCHING

The best mulches and the proper method of applying them.

VERY few amateurs realise the great value of mulches to both flowers and vegetables. They say that mulches look so untidy and are greatly out of place in a small garden and they do not realise that the great fact which accrues from using mulches is that they lessen the need for watering. Now every amateur who is not lucky enough to possess a hose pipe well knows that the watering of even a small garden thoroughly is by no means a light task, and considering that mulches really lessen that often Herculean task it requires a good excuse not to use them.

The best of all mulches is, of course, well rotted stable dung, but there are other materials, such as lawn mowings, rotted vegetable manure, cowdung, road scrapings, which are favourites with some people. My opinion is that road scrapings from tarred roads should on no account be used for mulching unless they are collected in wet weather. This is not because of the supposed harmfulness of the tar (which is much exaggerated), but because the dry scrapings cake so readily on the surface soil and the water runs off the top and does not soak in.

Nearly everything is benefited by a good mulch, but such plants as Anchasus, Pyrethrums and Delphiniums are among the plants which are specially grateful, and, of course, Roses, Sweet Peas, climbing plants and many others might be named. In the vegetable garden we have Peas, French, Dwarf and Runner Beans which are most grateful for mulches of lawn clippings, and many other crops are greatly benefited by the application of mulches in very dry weather.

THE APPLICATION OF MULCHES.

It is not the least good to my mind to apply dry mulch to dry soil, nor yet wet mulch to dry soil, for then if the rain should come it has to pass through the mulch before it can reach the soil and soak in and benefit the roots as it is wanted to. If mulches are to be applied at all they should be applied well wet themselves to wet soils and to soils that have been well cultivated with the hoe prior to the rain. A good time to apply is immediately after one of those heavy thunderstorms we so often get in July. It is then that the greatest advantage accrues from the use of mulches as the rapid evaporation is greatly checked by the manure, for manure holds moisture for far longer than soil.

If, however, the Clerk of the Weather is not good enough to send a thunderstorm as soon as you have read this article do not wait for him to do so, as he may be very busy carrying out some important Scotch contracts for lightning and rain. Get out your cans and buckets and make a gallant effort to soak your plants with water and then apply the wet mulch on the top of the wet soil. Then if the Clerk of the Weather returns suddenly from Scotland and brings a thunderstorm with him a few nights later the rain will at any rate soak in and benefit the roots, whereas if both the soil and mulch were baked and dry the rain would—most of it—have run off. Some reader who has leisure and a keenness for experiment should take a definite number of plants, such as Chrysanthemums; he should apply a mulch to half the number and no mulch to the other half. If he compares these plants in a hot season he will not be slow to see the advantages of mulching, but of course, in a wet summer no real comparison could be made.

E. T. ELLIS.

CORRESPONDENCE

HAILSTORM RELIEF FUND.

MY attention has been called to the serious damage caused by the hailstorm which occurred in this borough of Tunbridge Wells on May 25 (the most terrific storm which has happened in the district for the past thirty years), and I have been asked by several residents to open a fund to assist in replacing the thousands of panes of glass of greenhouses broken by the hailstones, and in any case of serious hardship occasioned by loss caused by the storm.

I have obtained information that many thousands of panes of glass of greenhouses of our local nurserymen have been destroyed, and the loss to some of our fellow tradesmen, but for the help to be given by means of this fund, is an irreparable one.

This appeal for funds is urgent and is well worthy of sympathetic consideration and very generous support. If any subscriber desires his

of the shrub as I have seen it. With the exception of *O. macrodonta*, generally described as not even hardy in the South of England, I must confess I do not know and have never before heard of the other species mentioned by Sir Herbert Maxwell. Upon reference to a fairly complete list of shrubs compiled from various sources nearly twenty years ago, I find *O. Forsteri*, *O. Gunniana* (Syn. *stellulata*) and *O. Traversii* mentioned as being hardy in the South of Ireland, but no reference is made to either *O. O. nummularifolia*, *nitida*, *ilicifolia* or *semitdentata*—but *O. dentata* is given as a synonym of *O. macrodonta*. These species are probably beyond the reach of the average amateur, even supposing his locality may be suited to their requirements. I wrote only of shrubs that I knew were on the market and easily obtainable.—
EDWARD SHOOSMITH.

[The *Olearias* are as a family much hardier than is often supposed. They might, and probably

called, *Columbus* or *Gala Beauty*, is another omission. A lady bought three bulbs in the distant past and now has a garden full of them, and to show how it flourished sent a sample of the blooms. It is truly a fine Tulip. Its flames of crimson and deep yellow always attract attention. It appeals to me because of its age; if it is not a hundred years old it might be. P. J. Buchoz, in 1781, published a collection of coloured Tulip plates of elephant-folio size, portraying some of the varieties then grown about Paris. French Crown might have been one of them. I once had it, but it never with me had the robustness and power of increase that I like to see in good garden varieties; but, then, I do not live in that Tulip Paradise, the Emerald Isle.

I thought I might be putting my foot into it when I omitted Mrs. Moon, and sure enough I have. It is a fine Tulip, and if at a certain stage of its growth I could give it gin or anything else that might arrest any further development of its flowers I would have certainly included it. It is not content with just "quartering," but it goes on and on until the blooms literally spread-eagle "all over the place." Its rich colour and graceful tall habit do not quite make up for this short-coming.—JOSEPH JACOB.

A SUGGESTION FOR EXHIBITORS!

THE accompanying illustration of a forest pool in Uganda bears a striking resemblance to the Water Lily House at Kew in summer. The three chief plants are *Cyperus Papyrus*, a *Panicum* grass and *Nymphaea stellata* in three colours, red, white and blue. The effect in early morning, before the sun has become too strong, is perfectly charming. All three plants are quite easy to grow in a house in this country, and if they be allowed to rest in winter, very little fire heat need be used. Such a scene lends itself to exhibition, and could have been shown at the Chelsea Show at much less labour and expense than some of the rock gardens there, and how it would have been appreciated by visitors!—E. BROWN.

UTILISING LATE APPLES.

AS all good cooks and connoisseurs of flavour in Apples are aware it is practically impossible to obtain any Apples in May that are not tasteless and sweet, the following hint may be found useful at the present time. If the juice or syrup of a canned Pineapple be added to the tasteless Apples when they are stewed it will much improve them. The Pineapple itself can be used in making fruit salad, to which it is almost always an agreeable addition.—ANNE AMATEUR.

MONOTONY IN GARDENS.

MISS CASE does well to call attention to this matter (*THE GARDEN*, May 20, page 242). During the past few weeks I have had the opportunity of observing hundreds of "front gardens" in the suburbs of Edinburgh, and in two smaller neighbouring towns, and I have noticed more forcibly than ever the sameness and lack of imagination displayed in them with, of course, some few notable exceptions.

The exceptions generally occurred in gardens where a selection of herbaceous plants was employed. Where borders or beds are filled twice a year the choice of variety is obviously somewhat restricted, but so far as my observation goes, much more might be done even with this class of plants. Daffodils were much in evidence, but *Priniceps*, *Emperor* and *Empress* or *Horsfieldii* were almost the only varieties employed. Why not *Pallidus praecox* and *Golden Spur* to start with, also *Sir Watkin*, *Gloria Mundi*, *Glory of Leiden*, *Mme. de Graaf*, *Poiteus*, *Poiteus ornatus*, *P. Poetarum* and *Barri*



A FOREST POOL IN UGANDA.

subscription allotted to any particular case and will so state when sending subscription, I will see that the desire is carried out. Subscriptions can be paid to any local banks, or to me at the Town Hall.—S. PARSONAGE (Mayor), *Mayor's Parlour, Tunbridge Wells*.

THE OLEARIAS.

IN describing these on page 270 as "never very beautiful," I was thinking of *Olearia Haastii*, the only one that is in general and, I think, somewhat common use. I ought, however, to have given its specific name. I can only say that by reason of its stiff habit of growth and its leaf colour of a nondescript green, that is neither blue nor grey, I do not, personally, care for those specimens that I have seen and grown. As with many other shrubs, there may, however, be a difference in stock or type. *Olearia Haastii* always looks to me as if it has been covered with roadside dust, and the flowers have always appeared to me a discoloured dirty white. Therefore, I do not think my verdict was at all "singular." I merely wrote

would, suffer in an exceptional winter, but such as *O. O. stellulata*, *macrodonta* and *nummularifolia* have come through recent winters unharmed in the Midlands of England. All three appear to be as hardy as, if not harder than, the Gum *Cistus* (*Cistus ladaniferus*); certainly much harder than *Cistus salvifolius*, for instance.—ED.]

TULIP SELECTIONS.

IT is impossible to please everybody, which I acknowledge saying is never more true than when it has reference to a selection of Tulips. So it has not surprised me in the least to get three letters calling my attention to some I have left out. (*THE GARDEN*, May 13, page 226.) One said, "Why did you put down *Picotee* and not *Elegans alba*?" and forthwith proceeded to explain how much more beautiful and rehned the last named is. I grant all that was said in its praise as a flower. The thin wire edge of bright rose which never flushes is exquisite, but for the rough-and-tumble of an ordinary garden I still go for *Picotee*. French Crown, or, as it is also

conspicuous, all of them beautiful and cheap varieties! Wallflowers I saw in abundance, but with very little variety. There was little true Vulcan, but for the most part various shades of red, inferior in colour, in substance of flower and in habit to that fine variety. Of that precocious variety Harbinger I saw not one, nor yet of that lovely sort, Sutton's Orange Bedder.

Allow me to record how I furnished a tiny cottage flower border last autumn. I employed Snowdrops, single and double, *Scilla sibirica*, *Iris reticulata*, *Aureola*, *Sisyrinchium grandiflorum*, *Orobis vernus*, Dog's Tooth Violet, Primrose and Polyanthus in variety, *Doronicum*, Daffodil, Wallflower in variety, Lily of the Valley, Pyrethrum, *Campanula persicifolia*, Ox-Eye Daisy, Michaelmas Daisy, *Chrysanthemum*, *Epimedium*, *Montbretia*, Christmas Rose (*altifolius*).

Several of these, though not mentioned were in variety. Of course none could be planted in quantity in such a limited space, some of the larger indeed were represented only by a single specimen. Here, however, is a border furnished at little cost, yielding bloom throughout the year. Perhaps these hints will prove of service to some reader of little experience.—CALEDONIA.

IN MEMORIAM

S. T. WRIGHT.

The red sun flames in the mist-veiled west,
The light of the day is declining
And a light from the gardening world has passed
Which had brightened it long with its shining.

A chill is pervading the evening air
Which the warmth of the day has forsaken
And a sense of loss is lingering there
Since he from our midst has been taken.

Mournful the murmuring streamlet sounds
While sadly the zephyrs sigh,
For the well known form on its daily rounds
No more shall pass it by.

The oaks which knew him for many a year
Their summer array are delaying
While the pale, sweet flowers he held so dear
A sad adieu are saying.

Not unfelt has his passing been
Since not in vain was his living,
For the treasures of knowledge he long did glean
He lavished in cheerful giving.

At the end of its course though a tribute stream
Seem lost in the swelling river
The stones it smooths where its ripples gleam
Will witness its work for ever.

And the spirit of him whose help and cheer
Oft smoothed the troubled brow
Will live in the lives of many here
Whose course is beginning now.

So the light and the warmth that have passed away
Give no true cause for sorrow,
For the place they have sweetly filled to-day
Will be fragrant with flowers to-morrow.

A. E. SIMS.

FLOWERS OF TIBET.

[N "Mount Everest, the Reconnaissance, 1921," by Lieut.-Col. C. K. Howard-Bury, D.S.O., and other Members of the Expedition, lately published, and full throughout of interesting information and speculation, not the least interesting parts are those which incidentally mention the plants which the members of the expedition

chanced upon. It is, of course, not to be expected that in such a work minute descriptions should be given of the various finds. After all, botany was not the first concern of this notable expedition; and so it happens that the notices of various plants, if interesting and suggestive, are also, it must be confessed, sometimes tantalising in their brevity and vagueness, and that, oftentimes, just where they are most interesting. "We found the valley gay with pink and white Spiræas, and Cotoneasters, red and white Roses, yellow Berberis, a fragrant-flowered Bog-myrtle, Anemones and white Clematis." Such charming glimpses as this of the Tibet valley or mountain flora are frequent in the volume, and just full enough to make one wish they were fuller. "A fragrant-flowered Bog Myrtle"? As far as I remember our native Bog Myrtle (*Myrica Gale*), it is the foliage that is fragrant rather than the catkin.

Again, a *Primula* "with three to six bells on each stem, the size of a small thimble, of a deep blue colour, and lined inside with frosted silver." This flower, one of the new finds, I take it, has been named *Primula Wollastonii*, no doubt in honour of the doctor and naturalist of the expedition. Mr. A. F. Wollaston. Again, "Between 11,000 and 13,000ft. you ascend through mixed woods of Pine, Larch, Birch and Juniper, with an undergrowth of Rhododendrons and Mountain Ash. The Larches have a much less formal habit of growth than those of this country, and in the autumn they turn to a brilliant golden colour. The berries of the Mountain Ash, when ripe, are white and very conspicuous." Our own Larches turn to a fairly deep yellow in autumn, and, for brilliancy, our native Mountain Ash in full berry would be hard to beat. But there is certainly room in our British landscapes for a Mountain Ash with conspicuous *white* berries, though just at first it would strike a new and strange note, to which we should have to get used. *Meconopsis horridula* is pretty certain to be known in Kew, and possibly in other gardens as well—"a dwarf blue Poppy which grows in a small compact clump, 6ins. to 8ins. high, with as many as sixteen flowers and buds on one plant; the flowers are nearly 2ins. across and of a heavenly blue." If Kew knows the plant, the sooner Kew makes us all acquainted with this Poppywort the happier we shall be. Where I find the Everest volume most tantalising in its botany is in its notices of the Valley Roses, which notices are sufficiently numerous but invariably omit the specific names. Nor are there any Rose species entered in the list of plants in Appendix V at the head of the volume. We read on one page, for instance, how "We walked up the valley of Rongshar, which in July should be called the Valley of Roses; on all sides were bushes, trees almost, of the deep red single Rose in bloom, and the air was filled with the scent of them." What is this deep red Rose that grows almost to a tree and fills a valley with its perfume?—SOMERS.

"THE FAULT OF THE DUTCH—!"

DOUBTLESS many of your readers enjoy the quaint "English" of the circulars received direct from Dutch nurserymen and are inclined to give a good-humoured order in consequence. May I offer a warning? I sent a small order and cheque to one such firm on March 20 which was duly acknowledged. The goods, however, were not forwarded, in spite of three unnoticed letters of enquiry and protest, in the course of a month. I then cancelled the order and sent in a claim for the return of the cash. To this no reply has been vouchsafed, and even an appeal to the Dutch police authorities has so far proved ineffectual. Moral: Deal at home. SIMPLE SIMON.

FREAK TULIPS.

WOULD you mind telling me through THE GARDEN what you think of the enclosed? During my gardening career of over forty years I have never seen Darwin Tulips throw up five



FIVE TULIPS ON ONE STALK.

flowers on one stem before. As you will see, one has four flowers and the other five. These were growing side by side. I have several others in the same border like them. The bulbs were planted late in the autumn of 1921 in the front of a herbaceous border. The soil is not overgood, and the bulbs have not been disturbed since they were planted. Can you give the name of the variety?—G. S.

[The above letter is typical of a number we have received. Four or five flowers to a stem seem fairly common with May-flowering Tulips this year. This is largely due, no doubt, to the extraordinary weather experienced during the early part of last summer. Secondary "baby" flowers are also very common this year. The name of the variety was in this instance Professor Rawenhoff.—ED.]

TWO INTERESTING PLANTS.

IN THE GARDEN for February 18, just arrived, there is a most interesting article on *Luculia gratissima*. We have a large plant of this in our garden where it is flourishing splendidly; the warmth and the sandy soil suit it well, and we find it does well when once established, though the greatest care is necessary for the first two or three years. Our plant promises to be one mass of blossom this year, every branch and twig having great clusters of buds already showing colour. The delicate pink colour and the delicious perfume of the flowers would make this a favourite everywhere. We have also been very keen in searching the different issues as they arrive for any notes on *Iris tingitana*. Our bulbs of this grow and increase amazingly, but alas! they very, very seldom gladden our eyes by a sight of their flowers. This year we mean to do as one of your correspondents has done, namely, lift and replant some of the bulbs when 7ins. or 8ins. of growth has been made. Perhaps this kind of root-pruning may be just what is needed to check the too prolific growth and to induce the bulbs to throw up flowering stems instead.—ELIZABETH LAW, Wellington, N Z

PLANTS FOR A SMALL MORAINE GARDEN

Being a record of an amateur's experience with such plants in a North country garden.

IN 1917 some notes on above based on my short experience appeared in THE GARDEN. It may be of interest to those keen on the smaller "alpine" to give my further experiences. While most of the plants then mentioned are still in existence, some few have not proved satisfactory, and others have had to be removed owing to their being too appreciative of the conditions provided for them and the tendency to take up too much of the limited space. In the subsequent years many new plants have been added.

All interested in this type of gardening must acknowledge how deeply we are indebted to the late Reginald Farrer for his enthusiastic and illuminating writing on rock and alpine plants and for the zest with which, after exploring most of the best localities in the alpine regions of Europe, he entered into carrying out researches in the unexplored parts of China and Tibet with the purpose of adding treasures to the gardens of those at home only able to travel along with him in the delightful books that made him, to many, almost an intimate friend who will be greatly missed. His death at so early an age in the wilds of Upper Burmah took away one whose influence will be remembered gratefully by the large and ever-increasing number who find pleasure in this more recent development in gardening that has made it possible to bring into our midst Nature's loveliest creations from all parts of the world. Experiments made in their cultivation by Farrer, Clarence Elliott and many other enthusiasts, stimulated to a large extent by their experiences, which they always generously brought to the notice of those interested, in THE GARDEN and other similar journals, and it has been possible to make at home many lovely

plants hitherto deemed almost impossible to grow.

One comparatively recent development is what is known as the "moraine" garden, which had a prominent place in some of Reginald Farrer's

an extensive undulating moraine broken with rocks, more or less after Nature, and sometimes, as in one garden I visited during the war period, very extensive, but the plants (that existed) few and far between. In my own, the moraine is a built-up one with stone sides planted and with a flagged path all round, the object being to make it easily accessible from all sides, to provide room for as many plants as possible, to provide a good depth of cool rooting material and to



ANDROSACE PRIMULOIDES ON THE MORAINE.

books and which was, no doubt, in the first place suggested by the positions occupied by many of the smaller plants in the moraines which are frequent in the various mountain habitats. Moraines vary considerably, depending on individual requirements. Some have moraine pockets in the general rock garden lay-out; others make

bring the flowers into a good position to be seen and examined, and also to minimise as far as possible the depredations of slugs, earwigs and other vermin that are as keen after rarities as the most enthusiastic gardener and even find their way on to the moraine, however isolated and stony it may be. Briefly, it is about 7yds. in length and averages 1½yds. to 2yds. in width. It is divided into three parts at three different levels, varying from 3ft. 6ins. at the high end to 2ft. at the lowest, 6ins. of the depth being below the footpath level. It has an open aspect to the south and south-east and is sheltered from the west and north. I find that the south-east aspect has one disadvantage, and that is that the earlier flowers especially suffer from the early morning white frosts in the spring and early summer, and frequently considerable damage is done owing to the sun getting on to them before the frost ring has disappeared.

When first planting I set out to obtain as many as possible of the fifty best moraine plants suggested by Mr. Farrer in THE GARDEN of May 24, 1913, and forty-three of these I have tried up to the present time. Many additional plants have been obtained, and notes on these will be added in brackets.

Androsaces: *A. primuloides* and *A. villosa*, both plants in the original position and still flourishing. *A. primuloides*, flowering later than the other similar Himalayan Androsaces, usually escapes the frosts; it is a truly delightful specimen in a sloping position on the moraine side, the rosettes usually coming through the winter quite well without protection. *A. villosa* usually has glass protection for a portion of the winter, but if planted in a more vertical position would probably come through without. *A. alpina* (glacialis): a small piece of this gem was tried in the autumn of 1920, but failed to establish itself; it is possible it might have succeeded if it had been protected from the frost, as it was exceedingly wet when and after it was planted.



THE BEAUTIFUL ANDROSACE GLACIALIS "AT HOME."

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

[Of the other Androsaces, *A. kumginosa* had to be removed, as, although very pretty, it liked the conditions too well and grew too freely for the limited space. *A. Chunhyi*, which was on a flatish part, died out probably for want of protection from winter dampness, although it does quite well outside in a sloping position. *A. sarmentosa*, in a sloping position, unprotected, sometimes looking the worse for its exposure, but gradually recovers and usually flowers well, the flowers, unfortunately, almost invariably being bleached and sometimes killed by early May frosts. It is rather too free for the moraine and does quite well on a wall or in a sharply sloping portion of the rock garden. *A. Watkinsii* continues to prosper; it is of the sarmentosa type with somewhat darker rosettes and deeper red flowers and quite a desirable plant, possibly, however, more suitable for the rock garden than the moraine. Androsace Chametjasme was lost, possibly owing to a specially trying winter and being finished off by slugs. *A. sempervivoides* is another Himalayan with smaller rosettes of sarmentosa type and pretty rosy pink flowers and is the earliest to come into bloom. Being in a somewhat flat position, it is found that some protection from wet is needed in the winter. A carnea flowered nicely towards the end of April, and as the flowers suffer from frosts, a stone was inserted in front to protect it from the early morning sun, which appeared to have had a satisfactory effect.

A. arachnoidea, one of the villosa group with smaller silky grey rosettes, flourishes in a vertical crevice. It flowered well last May and gives promise of doing so again, with its gracefully poised white flowers with greenish yellow eyes which later become pink. It was delightfully pretty in flower and a pleasant reminder of the exquisite gems seen in the Higher Alps.

A. tibetica, recently added from Farrer collected stock from Tibet, is supposed to be of the sarmentosa group, but my plant has much looser and less compact rosettes than any of the Asiatics previously mentioned. It has been partially protected during the past winter, but looks as if it might winter fully exposed in a well drained position. The flowers started to open on April 24, pink in the bud, opening out white or whitish with greenish yellow eye, and it is the first of my Androsaces to come into bloom this very late season, *A. sempervivoides* having hitherto been the first.

A. helvetica, a small piece of what seems to be this species, obtained from a crack on the underside of a large boulder in the Alps in 1920, with small grey-hued rosettes, has established itself and was on May 10 fairly well covered with its small white stemless flowers. It seemed to be "miffing" off owing to damp in the winter of 1920-21, when the idea occurred to me of placing a small piece of broken glass (beer) bottle over it as a protection from wet. This fitted over it nicely without touching the plant and it answered its purpose, the plant duly becoming nice established and, though small, looks quite healthy at present. It has had similar protection this last winter. It is quite probable that *A. glacialis* might have been wintered if similar protection had been adopted.

A. coccinea, an Asiatic species with brick red flowers was exceptionally fine at Kew in June, 1917. It is a plant that I should very much like, but up to the present it has not been included in any catalogue that I have received.

T. ASHTON LOTHOUSE.

[*A. coccinea* though a striking plant is, unfortunately, monocarpic, so is not likely to become popular.—ED.]

(To be continued.)

Endive.—Where a quantity of salading has to be produced for the winter months Endive is almost indispensable. During the next few weeks the main sowings must be made. The seed may either be sown in drills about 6ins. apart and the seedlings transplanted as soon as large enough, or it may be sown in drills 1ft. or 15ins. apart where intended to grow, and thinned out to about the same distance from each other according to variety. Endive appreciates a light but fairly rich soil, and it is particularly advisable to select a well-drained plot for the winter batch.

Potatoes.—The hoe should be used in good time between the rows of successive batches of Potatoes as they become visible, and the earthing up of late varieties be kept well in hand. Where it can be arranged, a dusting between the rows with a suitable fertiliser previous to breaking up and earthing up the soil will be repaid later on. Care should be taken that the soil is not drawn up so tightly round the stems of the plants as to prevent the rains having an easy passage to the roots.

Turnips.—A sowing should be made to provide an early autumn supply of roots. Choose a fairly cool piece of rich ground which must be brought to a fine tilth for receiving the seed. Draw the drills 15ins. apart and thin the plants to 6ins. or 8ins. according to variety and produce desired. It is an advantage to sow several varieties, as some are more prone to run prematurely to seed than others.

Late Peas.—These should, if possible, be grown some distance away from mid-season varieties, where mildew may have obtained a footing. Sow in shallow drills on land which has been well enriched and thoroughly cultivated. The earlier sown plants should have the hoe frequently plied between the rows, and on hot, dry soils it may be advisable to apply a mulching of manure or short lawn grass. The staking should always be carried out in good time and where the Peas are not growing in shallow trenches a slight earthing up is beneficial.

The Flower Garden.

Roses.—A careful watch must be kept for attacks of green fly, caterpillars and maggots. A few good syringings with an insecticide or dustings with tobacco powder will generally get rid of the fly, but hand-picking must be resorted to for the destruction of the other pests. The surface of the beds should be stirred occasionally with the hoe, and during dry spells a few copious waterings should be given newly planted bushes, even if it cannot be arranged for the whole of the plants. Disbudding naturally requires attention where specimen blooms are sought, and it is also to be recommended where the buds are so thick as to prevent a healthy unfolding of the blooms.

Alpine Plants which have passed out of flower should be cut over, and the growth of strong varieties kept from encroaching upon their weaker fellows. Plenty of cuttings will soon be available from many alpinists, including the Aubrietias, Arabis, Perennial Candytufts, Phlox, etc., and all will strike readily in a light sandy compost in a cold frame, which should be kept moderately close and lightly shaded until the cuttings are rooted.

The Hardy Fruit Garden.

Gooseberry Bushes carrying a very heavy crop of fruits should be relieved at as early a date as possible after the berries are large enough for cooking purposes and for bottling. By gathering only the larger fruits it will enable the smaller ones to develop and serve as a more profitable succession than would otherwise be the case. Trees on poor land, particularly those which have to carry their fruits as late into the season as possible, will be greatly benefited by a few waterings of liquid manure followed by a mulch, if possible.

Outdoor Figs.—Any strong water-wood should be removed as early as possible and thus check the tendency to excessive bleeding which the Fig is subjected to when strong shoots are removed. Plenty of space should be allowed the young growths and every encouragement given to a number of growths springing from the base of the tree.

Fruit Under Glass.

Melons ripening should have plenty of warm, dry air circulating in the house and the roots of the plants also must be more carefully attended to, for too much moisture at the roots at this period

greatly mars the flavour of the fruits. Melons are the better, I think, for being kept several days in an even temperature before using them, so it is advisable to cut them before they are too ripe and suspend them in a fruit-room until required.

H. TURNER
(Gardener to the Duke of Northumberland).
Abury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Planting Out Celery.—Maincrop Celery should now be planted out at the first favourable opportunity. Where the young plants have been growing on a hot-bed or in boxes of rich material they will lift with good balls of soil attached, so should suffer little by transplanting, more especially if the manure at the bottom of the trench has been mixed with old potting soil or such material as may encourage quick root action. Should a dry spell intervene after planting, copious waterings should be given.

Onions.—Transplanted Onions will now be growing freely, so should be further encouraged by the frequent use of the Dutch hoe between the lines. Where the plants are being grown with a view to obtaining large bulbs, occasional waterings or well diluted liquid manure from the byre should be given. In beds where growth is slow a judicious sprinkling of sulphate of ammonia may also be given, hoeing it lightly in. This stimulates growth and assists in carrying the plants past the stage when they are most susceptible to attacks from the Onion fly.

Cauliflowers.—Early varieties should be assisted with a suitable stimulant, so that no check to growth may occur. Make further plantations of Early London for use in August and Autumn Giant for late cutting.

Coleworts.—Sow seed now for early winter supplies. The ground for this crop should not be over-rich, as the plants should be grown as hardy and short-jointed as possible.

The Hardy Fruit Garden.

Currants.—Bushes of Red and White Currants may be considerably benefited if the shoots are tipped back at this time. More light and air is thus allowed to reach the fruits, while the bushes are also improved in appearance.

Wall Trees.—The various fruit trees on walls should be carefully inspected at this season, and the young shoots sprayed and cleared of insect pests, which if allowed to carry on their depredations will cripple the growths and retard the swelling of the fruits. Where the trees are carrying heavy crops, partial thinning may now be carried out, but discretion must be used in regard to this important work. Young, vigorous trees may be allowed to carry more fruit than others, but on no account should over-cropping be allowed, as this invariably tends towards unfruitfulness in later years.

Strawberries.—Beds of Strawberries which were not manured or mulched earlier in the year will now benefit if given waterings of liquid manure from the byre.

The Flower Garden.

Bedding Out should now be completed at the earliest possible period. The less hardy plants, such as Heliotropes, Dahlias, Begonias, etc., may now with safety be transferred to their flowering quarters.

Genista præcox.—This delightful and free-flowering Broom should receive any necessary pruning immediately it is past flowering. Unlike many other Brooms, this species will tolerate severe pruning.

Hardy Flower Borders.—Staking and tying will necessitate much attention at this season. Weeds will also be more noticeable, and the use of the hoe through the borders now will have considerable influence in lessening the work of cleaning up later in the season.

Biennials.—Seedlings of Sweet William, Canterbury Bells, Hollyhocks, etc., should now be pricked out in a nursery border or into frames which have been cleared of bedding plants. Water well, and shade the seedlings from strong sunshine for a few days.

JAMES McGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.).
Coadham, Kilmarnock.

ORCHARD

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WOODLAND

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ROSES FOR THE SHRUBBERY

But few of us think of Roses as shrubs, yet shrubs they are.

IT has been often stated and must be freely granted that the generality of garden Roses should be grown in a garden specially devoted to them, quite in the open and unencumbered by herbaceous plants or by other shrubs—for the Rose is a shrub—or trees. Violas as carpeting plants are generally allowed to be innocuous, and Mignonette is frequently tolerated among them, owing to its perfume.

It does not seem, however, to be sufficiently appreciated that these restrictions only apply with any force to such varieties as are used for bedding purposes. Many beautiful Rose species, owing to their habit of growth, show to much greater advantage in the shrubbery than elsewhere, and beyond question the shade afforded to the bases of the plants by surrounding shrubs is beneficial. Nor need we confine ourselves to species in this connexion. Many of the stronger-growing bush Roses and the climbing Polyanthas, of which Crimson Rambler may be taken as typical, succeed better in the shrubbery than elsewhere. Against the shelter afforded has to be set a supposed greater tendency to attack by insect pests—aphides and caterpillars—in such situations. Admitting that what may broadly be classified as bedding varieties of Rose are more susceptible to attack when mixed with other plants, experience shows that with the freer types referred to the reverse is the case. All gardeners with the "bump" for observation have noticed that healthy plants are less subject to insect attack than unhealthy ones, and this, no doubt, accounts for the observed facts in this case. This

notwithstanding, it would probably be wise to keep Roses of whatever type away from related genera, such as the Hawthorns, for instance.

Much has been written about the various wild (species) Roses, of which many are as beautiful as our own Dog Rose, *Rosa canina*, which, if a good form be selected for comparison, is saying a good deal; but there is apparently much still to be said, for these glorious wildings are still not grown to anything like the extent they should be.

It is a mistake to run after alien and, perhaps, not easy species while beauty is waiting almost on our doorsteps. We shall do well, then, to include in our shrubbery the native Sweet Briar, *R. rubiginosa*, of which the fragrant leaves and Dog Rose-like blossoms are familiar to all; or if this be thought too commonplace, we must at any rate find place for some of the beautiful hybrids, most of them raised by the late Lord Penzance. Most remarkable of these, and perhaps

most beautiful, are those raised by crossing the Sweet Briar with the Austrian Briars (*R. lutea*). Such are Lord Penzance and Lady Penzance, for instance, but they lack the abounding vigour of such a sterling hybrid as Meg Merrilees, for example, which is the one which must not be left out. For the front of the shrubbery the Austrian Briars themselves are excellent, since, though not specially free to flower, they form interesting and eyeable clumps.

Closely allied to the Dog Rose, but remarkably distinct from it, is the Central European *R. rubrifolia* (*R. ferruginea*) with red spiny stems and foliage of a singular but striking glaucous-red shade. It is worthy of cultivation for the foliage alone, but the flowers, if small and starry, are a bright rosy-carmine in colour, and the clusters of red hips at once beautiful and striking.

The Scotch or Burnet Rose (*R. spinosissima*) is an easy-doing species which spreads rapidly from underground suckers. It attains a height of 4ft. or so and has a habit of producing an abundance of upright, fine-spined growths, somewhat reminiscent of the Raspberry. The white, rarely pale pink, flowers with their golden stamens are lovely, but rather fleeting. Worth a place in the wild garden, it will be better rather to reserve space in the shrubbery for some of the good sub-species, such as *R. spinosissima altaica* with much larger flowers than the type, often reaching 3ins. across. This is a much larger plant in every way than our native type and needs room. Another very good form is var. *lutea* with bright yellow flowers. Except that it is taller and more upright in



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A HANDSOME ROSE—ROSA RUGOSA REPENS ALBA.



THE MUSK ROSE, R. MOSCHATA, EXCELLENT FOR THE LARGE SHRUBBERY

growth, this, to the uninitiated, looks much like the Austrian Yellow, and since it is, on many soils, more accommodating, is to that extent to be preferred to it.

The Rose species most commonly found in shrubberies is undoubtedly *R. rugosa*, and undoubtedly in districts where birds are not troublesome the handsome crimson fruits above the yellowing foliage are very effective. There are, of course, numerous varieties, but readers will remember that the double-flowered forms do not bear the glossy fruits which are the principal ornamental feature of the plant. That wonderfully fragrant, handsome and early-flowering Rose, Courad F. Meyer, owns much *rugosa* blood. It is one of the most suitable Roses for our purpose. The white or nearly white sport, Nova Zembla, is hardly so free flowering, but it also is useful.

One of the quaintest of Rose species and one admirably suited for shrubberies is *R. pomifera* with more or less apple-shaped fruits of shining crimson colouring and of, for a Rose, remarkable size. The flowers, like those of *R. rugosa*, are rather dull in colouring.

Rosa multiflora (Polyantha) is too large for many shrubberies, but, where space can be found for it, is a particularly beautiful species with white flowers borne in clusters. This is the parent, or perhaps it would be more truthful to say a parent, of all the climbing and dwarf Polyantha Roses of our gardens. The climbing Polyanthas succeed admirably in the shrubbery, even in a tangled one, and strangely enough appear to suffer much less from drought there than when trained on a pergola or to poles in the rose garden.

Some of the best Polyantha Ramblers for the shrubbery are Crimson Rambler (or Philadelphia Rambler, if that is preferred), Blush Rambler, Carmine Pillar—this is especially excellent so treated—and Aglata. That beautiful white Rose, The Garland, also is excellent, and though classed as a hybrid Musk, probably has *multiflora* blood.

The Musk Rose itself, *R. moschata*, is admirable where space can be afforded it, but it is a large grower and needs space to show itself to advantage.

Rosa macrophylla, with rosy-red flowers, and *R. Moyesii*, with deep brownish red blossoms shot with fiery crimson possess many points of similarity. Both have brilliant fruits, curiously constructed at the junction of the fruit proper with the persistent sepals, which give them a bottle-like appearance. Both are elegant growers with arching wand-like canes and handsome foliage, but *R. Moyesii* is more slender in habit and smaller in leaf than the other and longer-known species.

In *Rosa Hugonis* we have another species, suitable on account of its size and spreading habit only for the large shrubbery. Generally considered the best of the yellow-flowered species, it has beautiful foliage, but the fruits unfortunately are black and uninteresting, which is characteristic of all the species allied to *R. spinosissima*, which *R. Hugonis* obviously is. The creamy-white *R. hispida*, also of this family, has bright yellow buds. It is at once uncommon in gardens and ornamental.

It is necessary always to keep in mind the distinction between Roses such as the Austrian or Scotch Briars, which are bushes in themselves and need spacing accordingly, and *Rosa multiflora* and its hybrids, for instance, which like to grow between and throw their trails over other shrubs. There is room for both classes in the shrubbery, where late-flowering sorts are especially valuable.

SOME BEAUTIFUL GENTIANAS

THE Royal Horticultural Society might do worse than undertake the classification and nomenclature of the genus *Gentiana*. There is certainly much confusion in nurserymen's lists for which, as a rule, the nurserymen are not to blame, though a certain "boosting" of supposed new

the so-called pink *Gentian*, *Erythraea diffusa*. *G. bavaria* is probably more difficult to grow than *G. verna*, though not everyone has found it so. Outdoors treatment similar to that recommended for *G. verna* affords the best chance of success, but an abundance of moisture is essential.

G. pyrenaica, when it is obtained true, is an excellent moraine plant with well rounded flowers of a rich deep blue colour, but without the startling brilliance of *G. gentianella* or *G. verna*. *G. punila*, another excellent and not difficult species,

distinctly brighter in colour than *G. verna*. Unlike that species, it grows into compact tufts or mats of foliage. Though its range in the Alps is higher than that of *verna*, many find it easier to make happy in the moraine.

Turning now to the taller and more leafy species, the huge *G. lutea*, from the root of which is obtained the bitter principle so excellent as a tonic, is in its native fields a remarkably handsome plant, so handsome that it might well be tried in cool, rich soil in the wild garden. It is fairly easy to raise and rear from seeds. The related *G. tibetica* calls for mention only as an ugly weed to be avoided. The Heath *Gentian*, *G. Pneumonanthe*, is an indigenous plant and interesting on that account, and, although not showy, is worth trying to establish in cool soil with an abundance of humus. The Continental form called *G. P. arvensis* is much larger and somewhat more showy.

The Willow *Gentian*, *G. asclepiadea*, is, if a good form be obtained and given good culture—it likes a rich deep soil and a cool exposure—a wonderfully fine species for wild garden or border. Its flowers in the better forms have that gloriously rich hue known to gardeners everywhere as *gentian blue*. *G. septemfida*, somewhat in the same way but a much smaller plant, has conspicuous, well opened flowers of a beautiful soft blue. This species also likes a cool root-run in rich, rather peaty soil. *G. Lagodechiana* is merely a dwarf form of this species, but a very desirable one. The beautiful *G. Freyudiana* again is closely related and requires similar treatment.

There are several other beautiful *Gentians* with which the writer has had no successful experience, but he will end these brief notes by mentioning a few weedy species which should be shunned. Such are *G. G. brevidens*, *Cruciata* (this is better than some), *dahurica*, *decumbens*, *Fetisowi*, *Kesselringi*, *macrophylla*, *Olivieri*, *punctata* and *Walujewi*, with the already mentioned *tibetica*. If experimenters with this genus note only the list of rubbish—generally speaking, easily grown rubbish—these notes will not have been written in vain. H. H.



GENTIANA VERNA AS A MORaine PLANT.

species is noticeable in some quarters which are, in fact, not new at all—though new under the name given—and of small beauty or interest.

From a garden standpoint the most valuable species unquestionably belong to the *acaulis* group so admirably described recently (*THE GARDEN*, March 11, page 113) by M. Correvon. It would be stupid to traverse that ground again, but the interest aroused by the article was such that some notes on other desirable and *growable* *Gentians* may not be out of place.

No plant, probably, has occasioned greater controversy as to its culture than the altogether delightful *Gentiana verna*. It unquestionably likes a damp climate, and that, outdoors at any rate, many of us cannot afford it. It certainly does not appreciate bare earth around its rosettes, nor, considering its method of growth in Nature, would one expect it so to do. It is advisable therefore to associate it with some light-growing carpeter, such as the native *Arenaria verna*, for instance. For the rest, moisture at the root and to a lesser extent in the surrounding air can be given by planting it in the moraine. A westerly exposure is, in the writer's experience, best. There are many forms of this plant (leaving quite aside colour forms), and it is worth while to select one with stout, well rounded flowers, but freedom to bloom is an essential point and one often overlooked.

Gentiana bavaria is perhaps even more beautiful than *G. verna*, with a depth in the colouring and finish of the flower which renders it quite distinct, apart from the more slender habit of growth, the paler, much less displayed foliage, and the absence of basal rosettes. The leaves of *G. bavaria*, indeed, get larger as they near the top of stem, being reminiscent in this respect of

might be described as a minute and dark *G. verna*, but the leaves are narrower, more rigid and grass-like. *G. brachyphylla* is rather smaller and

BASKET BEGONIAS

Their Value, Culture and Present Propagation

THOSE who appreciate the most beautiful and artistic effect from their greenhouses and conservatories are always on the alert for charming plants that can be suspended from the roof in baskets. And in this connexion I know of few plants which are capable of giving greater satisfaction than the pendent *Begonias*, for they possess every virtue and no vices, are graceful and varied in form and colouring, easy to grow and to manage, enjoy remarkable immunity from pests, and flower brilliantly and continuously month after month. In winter they can be safely stored away in a frost-proof place while other varieties—in the form of *B. Gloire de Lorraine* and its relatives—take up the story and "carry on" all through winter and spring, until their tuberous brethren are again ready to occupy the place of honour.

Enter through the doorway of a house in which basket *Begonias* are well represented and—however brilliantly the staging may be furnished—you will find your eyes irresistibly drawn upwards to the flaming colour masses that hang overhead. Yellow, carmine, salmon, pink, deep red, orange and scarlet, all are there, and all flowering with the profusion to which we are accustomed on the staging, save that these flowers are in an infinite

variety of form and are borne on long pendulous stems full of grace and lightness.

Culturally, the tubers are started in precisely the same way as the ordinary tuberous varieties and left to grow on until about June, if top growth has been made, when they are ready for placing in the baskets.

Where named kinds are used, one tuber in an 8-in. basket is sufficient, though a better effect is obtained where a 10-in. basket is used with three tubers set in a triangle. Great interest attaches to unnamed seedlings, however, and where a number of these are on hand, half a dozen can go into an 8-in. basket for the first summer, although in subsequent years these make much more vigorous tubers than the named kinds and consequently require more space.

A mixed packet of the hybrids of *B. Lobli* will provide a wide variety of colours, and in the second and succeeding years a single tuber of these is sufficient to furnish a full basket.

Baskets which are to contain tubers must first be well lined with fresh green moss, carrying this right to the top, and then filled with soil. The moss should not be spared or the soil will wash through it when watering has to be done. Make the soil firm and let this consist chiefly of turfy loam. Deep planting is a mistake, the

THE PICTORIAL ROSE GARDEN

tubers should only be just hidden from sight. Water thoroughly when planting is finished and hang the baskets in a house where the temperature ranges between 60° and 70°, keeping the atmosphere well moist by daily syringing. While the roots must never become dry, a sodden condition of the soil quickly brings the plants into an unhealthy condition. Too much or too little moisture will at a later stage bring down the buds in showers.

Basket Begonias are often far too heavily shaded. Scalding sun they will not stand, but a light screen only is necessary to protect the foliage from harm, and there can be no question that they flower much more freely where a good supply of light reaches both buds and stems. A common mistake is permitting the plants to flower before they have well furnished the baskets with growth. Remove all buds as they appear until plenty of vigorous growth has been made; the flowering will then take care of itself. Among named varieties I can confidently recommend the following as first class in every way. Alice Manning is a lovely clear yellow, splendidly free, fully double, and forming a perfect shower bouquet of loveliness. Carminea cannot be accused of heaviness. It is light and graceful and a fine carmine red in colour. Corallina is a distinct salmon pink, the blooms being especially pretty by reason of their long pointed petals. Fleur de Chrysanthème is one of the best named species for making a display of colour. The habit of growth is all that could be desired, while the profusion with which the salmon pink flowers are borne is little short of marvellous. Gladys is another "all flower" variety, very double, with long, narrow petals of rich dark red. The foliage of this, too, is long and narrow, just the best possible complement to the pendulous masses of flowers. In bright crimson Lena is a distinguished variety with attractive, loosely formed flowers, the abundance of which leaves nothing to be desired. Marie Bouchet, owing to its great vigour and the length to which the long branches extend, is suitable only for really large baskets and where space permits of their being hung. In the large conservatory it is superb with a profusion of handsome deep red flowers. As a contrast to this for the small house Mrs. Bilkey (orange salmon) is worthy of high praise; indeed, next to Lloydii it is the most desirable of all, as, while giving glorious balls of colour, it is not too rampant. The name Rose Cactus is aptly descriptive of this showy form. The plant simply smothered itself with a wealth of bright rose cactus-like blooms with very elegant pointed petals. For bright scarlet red Sirius will take some beating; indeed, it is, so far as I have seen, the premier variety in this colour. Stella (another red) is first class as a basket plant, and is distinctive in the pretty form of its flowers, the narrow petals of which are curiously curled and twisted.

When propagation of any of the above is contemplated it should not be left too late in the season. This is an excellent time for detaching the cuttings, which when taken off at this time form nice little tubers before the advent of autumn inhibits further expansion. Cuttings are not difficult to root, provided the watering is in skilled hands. Sever these just below a joint and remove the lower leaves with a sharp knife, then insert in pots filled with light soil so that the base of each cutting rests upon a small heap of sand. Water so that the soil is never more than just damp, but keep the atmosphere well moist so that the foliage does not droop. A close propagating frame in the greenhouse is an ideal place for the cuttings, gradually accustoming them to more and more air until fully rooted, when they should at once be given single pots and be grown on as rapidly as possible. H. W. CANNING-WRIGHT.

THE rose gardens on the Riviera have been unusually beautiful this season, partly because the month of April was so cool that the blooms opened more slowly and lasted longer, and partly because the bushes had rested so long and so completely, owing to the absence of the usual autumn rains. In consequence of this, no Roses were pruned last winter, and this absence of pruning, coupled with the long rest and thorough aeration of the soil, produced the most splendid harvest of bloom—richer in colour and larger in size—than any season I can remember. It will be interesting to see if there is anything of the same sort visible in English gardens this summer.

We certainly are apt to over-prune our Roses in England: we love our trim rose gardens with their neat bedded-out masses of flowers hardly taller than the geranium beds they have replaced, and no doubt quite as brilliant in colour in many cases; but is it not a fact that one often hears a friend say: "My rose beds are quite worn out and must be renewed"? The truth is many of these gardens are too neat, the Roses too closely pruned in spring, and, what is worse, the Roses in summer are cut with such long stems that the growth of the plants is seriously weakened. You cannot always be cutting your Roses back if you wish to make or keep them vigorous, and the bedding Roses should be lightly shorn of leaf or flower during the summer.

On the Riviera the Rose bush is all the better and more vigorous as the years go on, and a twenty year old bush will produce hundreds of flowers each year—often twice yearly on bushes that are allowed to grow at their own sweet will and are not cut down to ground level each winter. There was a charming picture the other day in THE GARDEN of Rhododendron bushes in rough grass, each covered with abundant heads of flower. I showed it to a friend, who said at once: "Why, without my glasses I should take this as a picture of the Rose bushes in your valley!" and it is no exaggeration to say that Rose bushes on the Riviera should be as big and as full of flower as any Rhododendron bush in England.

It is not every Rose, however, that is suitable for the pictorial rose garden, and that is where comes the "rub." We see so many beautiful Roses at a show that we are possessed with the idea that they are the Roses needed for the garden of our dreams. It is true they may be so, but you have to prove them. Especially is this the case on the Riviera. Roses budded on the Briar stock are sure to suffer in a really dry, hot season; while the Indica major and De la Grifferaie stocks do not suit many Roses, notably the brilliant Pernetiana Roses, which prefer a moister climate at all times. Travellers all delight in the cascades of Roses seen tumbling over the garden walls or climbing high in the Olive trees, not one of them probably is less than twenty or thirty years old, and if ever grafted (which I doubt) has long ago made root for itself and left the stock to pine away. So, then, the Roses you wish to depend upon for your pictorial garden should preferably be on their own roots, and patience will be needed for a year or more. On the Riviera we have a number of Tea Roses raised years ago, chiefly by the Nabonnand family, that are quite indispensable on account of their vigour and freedom of bloom, especially in winter, when Roses are doubly precious and doubly delightful because they last so long in the cool atmosphere. In the more northern gardens, and especially in England, the Hybrid Tea Roses are the mainstay of any rose garden, but many of them have not the same

vigour of growth as the Tea or Bourbon Rose, and I leave it to those who cultivate them best to say which are the most pictorial in growth and habit, for it is the *free-growing* Rose that I wish to champion, and it is the permanent and pictorial rose garden at which I aim. There, if need be, pruning may be left alone now and again, when the seasons are kind, so that Roses may have the chance of showing themselves in full beauty. To show off such Roses an Olive tree or two and quite a sprinkling of Orange or Lemon trees are needed to give background and shelter from sun and wind. That entails irrigation in summer, as the Orange and Lemon trees must be kept green and growing. So, then, the pictorial rose garden must be where water is at hand, whether on the terraced hillside or on more level ground. I need say nothing about the necessity of planting the familiar Banksian Roses of all types, or of the Japanese *Rosa sinica* and its lovely hybrid Anemone, or of that lovely but uncertain Rose, Fortune's Yellow, for they must be in every garden.

I am now mentioning the strongest growers and the best winter bloomers. Noëlla Nabonnand (deep red), Comtesse de Turenne (pink, Bourbon), Dr. Rouges (red), Duchesse de Nemours (bright pink, Bourbon), Lamarque (lemon white, Noisette), Mme. Alfred Carrière (flesh white) Beauté de l'Europe (buff yellow), M. Choutet (orange and yellow) and M. Calvat (pink, Bourbon) are all of the greatest vigour and beauty and should be used for arches, climbing up trees or posts, or a wall, if there be one.

Not many Roses succeed on a south wall, but Lamarque and Noëlla Nabonnand seem to "stand" anywhere. Then comes a slightly less rampant group, most useful for cut bloom in mid-winter, of which Peace and Warrior are almost invaluable. Peace is either a seedling or sport of the good old G. Nabonnand (still one of the best) and its blooms open in cold weather as well as did the old Safrano, now discarded, and its lemon cream tones are always welcome. These Roses (and many others) need either a pole or an espalier to show off their best points. There is a new American Rose named Hadley, deep red in colour and very fragrant, that promises to come under this category.

Then come the ever-welcome bush Roses, which should in time attain 8ft. or roft. in height and as much through. These are the mainstay of the more formal part of the garden and should be planted in groups of three so as to make more effect. After many years experience I unhesitatingly give the first place to the rose pink General Schabliakine and the creamy Antoine Mari as the most dependable of all winter Roses. Comtesse de Leusse, flesh pink and very hardy, and Archiduc Joseph, more stiff and sturdy, if possible, and varying in colour from pale to deep rose pink, come next as indispensables. There are many others nearly as good, and local conditions bring them into the first rank sometimes, as I have seen, but the list would be so long I dare not go on with more names; but I must remark, *en passant*, how few good yellow roses are to be found in winter, and I regret not to be able to recommend the good old Maréchal Niel or the still lovely Chromatelle without a word of apology for their uncertain behaviour. Will some good man give us a Rêve d'Or that shall be worthy its name? How welcome it would be! It is amusing sometimes to bud a new Rose on a strong shoot of any of these free-growing Roses—sometimes it is a great success. A hedge of Roses can be agreeably varied by such a proceeding. E. H. WOODALL.

THE ESSENTIALS OF GOOD GARDEN DESIGN

I.—Simplicity and Directness.

AGARDEN designer must, if his work is to be worth while, have good taste, but the possession of that elusive quality will not of itself make a garden designer; or, indeed, a designer of any kind, for between the appreciation of what is good and fine and the power to design or construct such there is a great gulf fixed. The professional garden designer, or garden architect as he is now generally called, has, or should have, over the amateur who designs his own garden, the great advantages of much experience and a prolonged study of various styles and traditions. This notwithstanding there will always be numbers of people who will wish to design their own gardens, and it is largely for their benefit that these notes are penned, though many who would never venture to carry through their own designs may probably find them of interest.

The amateur designer has usually one advantage over the professional in that he can, if he has patience, bring an amount of thought to bear upon the matter in hand which a garden architect could hardly be expected to give. Such thought is especially valuable in that it may suggest ways of using to the best advantage existing features—clumps of trees and what not—ways which would at first sight elude one. Even this advantage, however, should not be unduly magnified, for it must be granted that a trained observer will see and absorb in a few hours what it might take an amateur weeks or months thoroughly to appreciate. If the amateur designer is a keen gardener of long standing, he may perhaps have a better knowledge of trees and plants and their possibilities than, at any rate, the average garden architect, and this knowledge he should turn to full account.

The veriest novice can usually distinguish a garden designed by the garden owner from one

laid out by a garden architect—even by an architect of middling ability—though he would perhaps be puzzled to state wherein exactly lay the difference. The failing of the architect's garden is apt to be monotony, that of the amateur's complexity, hence the need of these notes upon simplicity and directness.

Want of simplicity is manifested in a multitude of ways, as, for instance, in the indiscriminate dotting of little beds in a lawn where a stretch of unbroken greensward or a stretch broken only by a bed or group of beds would have been at once simpler and more restful. Again, how often does one see a path that obviously winds hither and thither merely for the sake of winding, and how fatuous such a path always looks! A straight path or a path in one strong yet beautiful curve would in such case be infinitely better because of its straightforwardness and simplicity. Generally undue complexity leads to the compressing into a given space of more detail than the space will properly display. Paths and vistas accordingly are apt to be too narrow to be effective, and in other ways want of simplicity is apt to strike the eye as meanness of proportioning.

A good and restful garden need have scarcely any ornaments, but those included should certainly be good of their kind, bearing in mind that goodness and expensiveness are not interchangeable terms. A Venetian well-head and a simple modern potter's urn may be equally good each in their separate ways and as fitting for your garden, especially if it be a small one, the urn may conceivably be the better as being more suitable, both in scale and material, to its surroundings. Observe, however, the essential difference, apart from design, between the good and the bad. A terra-cotta urn that frankly is that, may be very pleasing; but a terra-cotta vase that makes believe to be stone is an

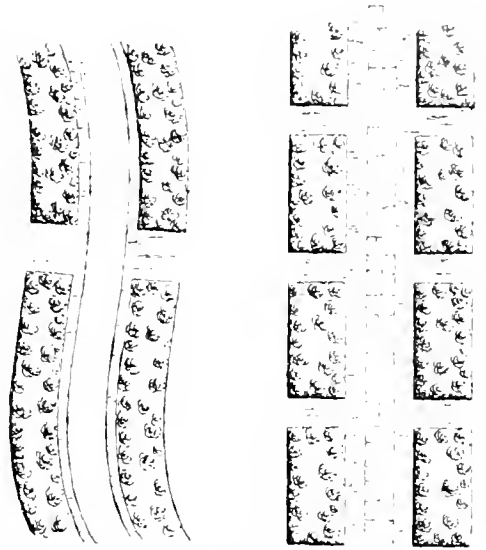


Fig 1.—Two Rose-bordered paths. On the left a meaningless wriggle. On the right an example of simple, sound design.

imposture. It may fill the eye from a distance, but when, drawing nearer to inspect what one admires, one discovers it to be a fake, nothing but dissatisfaction is left.

This question of ornaments is responsible for much of the feeling of complexity with which so many gardens impress one. An ornament may be intrinsically beautiful and yet be quite unfitted to your garden or to mine. What we need is something right, not only in feeling but in *scale* for the place into which it is to go. Well-heads and sundials in the medium-sized garden are,

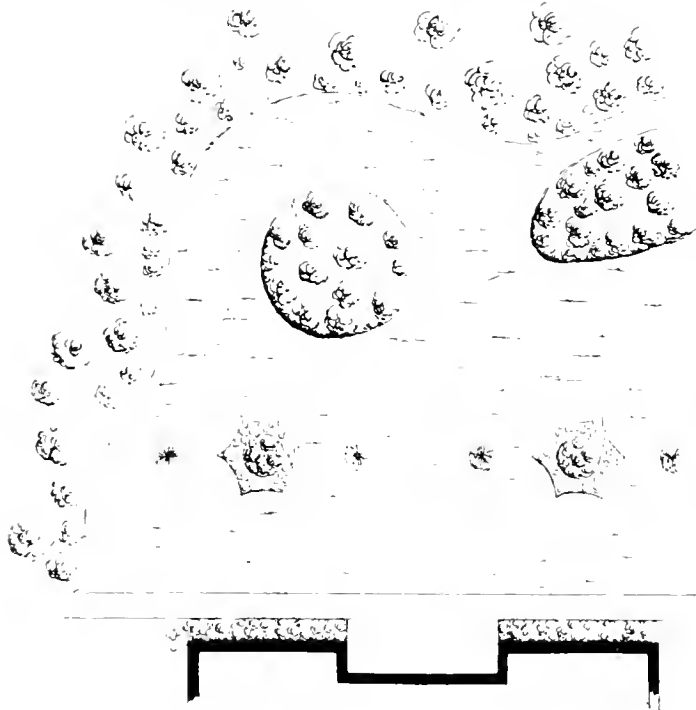


Fig. 2.—Treatment for the garden-front of a house rather awkwardly circumstanced as to its boundary. Note the absurd curves of the surrounding shrubbery, the (usual) round Rhododendron bed, and the ugly and distracting little beds in the foreground. Yet this illustrates a by no means exceptional treatment.

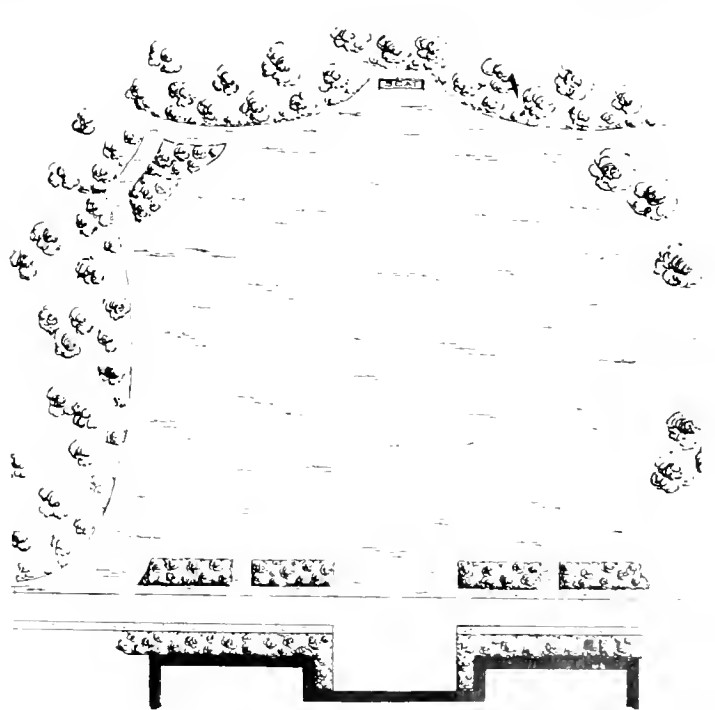


Fig. 3.—A simple treatment for the same site, in which the offending waves are abolished and the beauty of the grass setting is allowed play. The bed at left hand top corner would be filled with dwarf-growing shrubs in keeping with the shrubbery behind and the balancing trees on the right might be under-planted with Heaths, *Genista hispanica*, etc.

IRISES AND SUMMER FLOWERS AT VINCENT SQUARE

experience shows, apt to be over-large—though there is a wide range of small sundials always on offer—while garden seats and bird baths, on the contrary, as often seen are ridiculously small. It is difficult in a small garden not to get the summer-house too large to make a good ending to a vista, but it is amazing sometimes to hear, as one often does hear, "We hope some day to put a summer-house there to close that vista," and then to see the seat which, pending the provision of the summer-house, they have set to close the vista in its place. If a vista cannot be closed worthily and weightily by garden furniture, much better let it terminate in a half-circle of solid English Yew.

A notable example of want of directness in treatment is to be seen on the garden front of the new laboratories at the R.H.S. gardens at Wisley, where the terrace, falling from end to end, is quite unnecessarily broken and the steps suffered to meander in a way which is not only distracting but which actually breaks, by the interposition of a wall parapet, the line of vista; all quite unnecessarily.

Much restlessness and complexity is introduced into gardens because of a desire to have something different from other folk. The personality of the garden-lover will surely stamp its mark upon the garden, and that quite unconsciously. The seeking of the merely bizarre to provide a difference is as unnecessary as it is disturbing. Where natural rather than formal gardening is desired or is appropriate it might appear that the resolute quest of simplicity is no longer essential, yet actually in no form of garden lay-out does one need more steadily to keep one's eyes upon the light. Breadth and simplicity are, in fact, the very keystones of successful natural gardening, though it is true enough that such work is not simple to carry out effectively. The amateur has, however, this consolation that working with living material he may largely alter season by season the living picture he is painting until he moulds it "nearer to his heart's desire."

Estates laid out by "Capability" Brown or such parts of them as still bear evidences of his handiwork—have sometimes a dignity and beauty worthy of emulation. It is rather doubtful, however, whether this is not rather evidence of Nature's triumph over mediocre design rather than any special goodness in the design itself. Be this as it may, it is certain that Brown's ideas of garden arrangement are quite unsuitable, not only for small gardens, but for any gardens of a size likely to be constructed to-day. Present-day taste certainly rather favours the formal in garden making, but the formality should not be over-emphasised by undue restraint on the liberty of growth of the plants used.

If there is anything worse in modern gardens than the succession of aimless serpentine paths—sometimes seen it is the serpentine curves which but too often, form the outline of lawns. Usually a very little thought will show how these may be altered, nor need it as a rule be a difficult matter.

The popularity of stone paving is understandable, since it forms an excellent dry path and is, especially if it takes the form of self-faced hard York stone, exceedingly pleasing in itself and even more pleasing as a splendid foil to many plants with flowers or foliage in shades of purple, crimson, soft yellow or grey. There has, however, sprung up of late years a tendency to use what is called "crazy" paving—often with hideous gaping joints—even for formal paths and terraces. This tendency can only be described as retrograde. It reminds one of the strange fancy which existed a generation ago for "rustic work," rooteries and other monstrosities.

It was very largely a show of Irises at Vincent Square on June 7 and 8, even though the hot, dry weather had so hastened the blooming of so many varieties that the selection of types to illustrate the proposed classification

of Irises was not so valuable as was hoped. But the great trade growers were able to set up magnificent collections of many types and their great excellence may be judged by the fact that three gold medals were awarded to [collections. These were by Messrs. Barr and Sons,] who arranged their [great array in a most attractive manner; to Mr. Amos Perry, who had his gorgeous Irises rising from a cool green bank of his admirable hardy Ferns; and to Messrs. Wallace and Company, for such an extensive and valuable collection that the "congratulations of the Council," the latest and most valued award of the Society, were added to the gold medal.

Although it did not contain so many flowers as in their entrancing Iris garden at Chelsea, the collection of Messrs. G. Bunyard and Co. was very attractive and particularly rich in varieties of the showy Iris squalens section. At the other end of the hall Messrs. G. G. Whitelegg and Co., Limited, had a valuable collection of Irises, in which the yellow and carmine-bronze Iris King, the lavender shaded Tamar, the yellow Mrs. Neubronner, and many others were very prominent. Of the many sorts in Wallace's collection, Isoline, lavender bluish with rosy lavender falls; Souvenir de Mme. Gandichau, the deepest and most velvety dark blue Iris in the show; M. Boyer, a good spike of metallic purple standards and rosy purple falls; Ambigua, of delightful reddish carot and maroon shading, were especially charming.

In Messrs. Barr's artistic group there were stately spikes of such pallid varieties as Crepuscule, Albert Victor and dalmatic Princess Beatrice. Chief among the Iris squalens sorts were Mary Garden, Eldorado, Le Réve and Quaker Lady. Besides these and many more of similar types, they had some excellent varieties of giant Niphium Irises and Ixia Humbert and Scarlet and Gold. A smaller collection by Messrs. Lowe and Gilson, who can grow Irises equally as well as they do border Carnations and Auriculas, included beautiful spikes of Dora Longden, Eldorado, Prosper Laugier and, best of all, Camelot, a chaste Bliss seedling with milk white petals lightly feathered pale lavender.

Such Irises as Fro, of golden and bronzy-carmine colouring; Isoline, pale shades of purple; Princess,

a dainty lilac bluish, and Ed. Michel, royal purple, with bright lines at the base of the petals, were pleasantly associated, by Messrs. Waterer, Sons and Crisp, with goodly masses of the Golden Sunshine Beauty Lupin, Delphinium Lamartine,



ONE OF THE NEATEST OF SUN-ROSES—HELIANTHEMUM ROSMARINIFOLIUM.

Achusa italica Dropmore variety and some tall spikes of Eremurus.

The bulbous Irises were represented by two interesting collections in addition to the Niphium varieties in Barr's collection. Ryders had a number of very good Dutch Irises. Those of blue shades included Imperator and E. B. Garnier, while, of the whites, D. Haring, White Excelsior, and A. L. Koster were chaste and beautiful. Messrs. Chapinan, Limited, set up some of their Rotherside Irises which are said to be crosses between Iris tingitana and Spanish varieties. They are early flowering, of good size and in a pleasant variety.

There was an Iris Conference during the afternoon and in order to assist in the work of colour classification the Society had brought from Wisley flowers of many classes and types, but the season prevented this being as full as was wished. The three or four competitive classes found ample space in a part of the Orchid annex. The best exhibit from every point of view was the collection of twelve varieties by Messrs. Wallace and Co., which won the prize offered by the American Iris Society. These were

all varieties in commerce and included handsome spikes of Ma Mie, Medrano, Proserpine, Isoline and Ed. Michel. Mr. Baker was a good second in this class.

The prize for the best three spikes of one seedling was awarded for Chasseur, by Messrs. Vilmorin-Andrieux. It is a free flowering sort, mostly yellow in colour; the falls are paler than the standards and have rosy-carmine markings at the base. It cannot be said to be a beautiful flower. Mr. A. J. Bliss won the other two first prizes. Only two of his three seedlings were on view and these were Swazi, a purple shaded Iris, and Citronella, which was the most beautiful Iris in the hall. It is much of *I. squalens* type and the golden falls are heavily lined with carmine which is enhanced in beauty by the golden beard. As a single spike he showed Bruno, a rich purple shaded flower of magnificent size and shape. Many judges thought this should have taken first prize over Chasseur in the class for three spikes of a seedling Iris.

Besides all these gorgeous and beautiful Irises, there were sufficient general flowers to interest all tastes. Richly coloured sprays of such Roses as Persian Yellow, Star of Persia and Harrisonii, were shown by Mr. George Prince and the Rev. J. H. Pemberton, while *Rosa grandiflora*, *R. Moyesi* and *Pax* were also noteworthy for their grace and beauty. The usual collections of bright and fresh Carnations were shown by Mr. C. Engelmann and by Messrs. Allwood Bros., who included a good selection of their graceful Allwoodii. Messrs. John Peed and Son, staged an excellent collection of Streptocarpuses, greenhouse plants that are of very easy cultivation if given light shade and

atmospheric moisture. These plants were all large-flowered hybrids and unusually free flowering for that type. They also had four double Petunias in rose, blue and white.

Bastin's strain of double-flowered tuberous Begonias were also extra good and the new variety Lady Bell was particularly charming.

Although hardy flowers, the Sweet Peas shown by Messrs. R. Bolton and Son, and the Antirrhinums by Messrs. Dobbie and Co., had all been grown under glass, and they both were especially fine. There were several new Sweet Peas of Bolton's raising. *Comdale* may be termed a bluish rose Picture, for it is very like that beautiful sort in form and habit. *Elsie Dean* is a silvery lavender self and is certain to be in request, as it is a great advance on all previous lavender coloured Sweet Peas. *Wonderful*, a glowing scarlet, and *Orange Flame*, of very orange colour, are both said to be sun proof. *Artistry* is a greatly improved Princess Mary. Among the Antirrhinums we noted a vase of the old striped Antirrhinum which is rarely grown in the south, but is in high favour above the Tweed. At the shows in Edinburgh, Glasgow and Dundee there are often as many as twenty exhibits in the class for six vases of distinct colours, and the fanciers are very critical over them. The self colours of such as *Coecinea*, *Yellow King*, *Cottage Maid* (one of the best pinks), *Amber Queen*, *Maive Queen* and *Maize Queen* appeal much more to the southern taste.

Lupins were very prominent among the border flowers. Mr. Clarence Elliott had a splendid strain of scented *Lupinus polyphyllus*, and Mr. R. G. Downer showed some very strong spikes,

though they were not scented. A charming strain of long-spurred Aquilegias was shown by Mr. V. C. Vicars of Newsell's Park, Royston, who grows over 9,000 plants and staged some sixty very charming varieties. Among several brilliantly coloured Heucheras, Mr. G. W. Miller staged *H. narelloides*, a graceful, feathery, soft pink variety; while Messrs. B. Ladhams, Limited, had many charming and fragrant garden Pinks in their collection of border flowers, and Messrs. Maxwell and Beale showed the uncommon *Lavandula Stochas* and several of the *Mesembryanthemums*, which flourish in warm, sunny places. *Apuga Brokbanki*, shown by Mr. M. Prichard, bore many sturdy spikes of intense blue flowers. Another extra good dwarf blue herbaceous plant was the *Veronica Shirley Blue* of Messrs. Ladham's collection. Especially pleasing was *Helianthemum rosmarinifolium*, starred with silvery flowers, on Mr. Clarence Elliott's exhibit.

The most showy of all the trees and shrubs were the sprays of the rosy purple pea-shaped flowers of *Robinia hispida macrophylla*, with the somewhat similar *R. Kelseyi*, shown by Messrs. J. Cheal and Sons. Mr. Charles Turner had several very interesting shrubs, such as the sweetly scented *Syringa Swegnizowii* and *S. Enodi*. *Dentzia hybrida Lemoinei* may be termed a greatly improved *D. gracilis* and it is an excellent pot plant for gentle forcing. Mr. Turner also had flowers of *Magnolia Delavayi*, which are deliciously fragrant. *M. Watsonii* and *M. parviflora*, two other desirable creamy-white flowered Magnolias were to be seen in Mr. G. Renthe's collection of shrubs and alpines and he also included brilliant spikes of



A MOST STRIKINGLY COLOURED BEARDED IRIS,
CITRONELLA.



DIANTHUS x MASCOTT, A HYBRID BETWEEN SWEET WILLIAM
AND CARNATION.

Habranthus pratense. The fragrant early Dutch Honeysuckle was shown by Messrs. Hillier and Son, with several good *Cistus*s, *Abutilon vitifolium* and other species.

In a corner space Messrs. Blackmore and Langdon had a collection of splendid *Delphiniums* in great variety, while at the other end of the hall Messrs. Kelway also had some *Delphiniums*, but their beautiful *Pæonies* were the greater attraction. An admirable collection of double and single-flowered *Pyrethrums* was shown by Mr. W. F. Gullick.

NEW AND RARE PLANTS.

Begonia Lady Bell.—A very uncommon and beautiful tuberous *Begonia*. The broad stout petals are prettily frilled and it is a fully double flower of fine shape. The colour is deep creamy white and the margins are of soft orange. The marking is much like that of a heavy edged *Picotée*. Award of merit to Messrs. Blackmore and Langdon.

Buddleia alternifolia.—This appears to be a very graceful and free flowering species. The alternate, lanceolate leaves are about 2 ins. to 3 ins. long, pale green above and silvery below. The very long flowers are somewhat of *variabilis* type, but the raceme is not branching at the base. The flowers are of silvery lavender colour and slightly fragrant. Shown by Sir H. J. Veitch.

Catalpa Fargesii.—A handsome tree, 20 ft. to 30 ft. high, which was first discovered by Père Farges in Szechuan, China. Wilson found it in W. Hupeh, Western China, in 1907. The broadly ovate, soft green leaves are much smaller than those of *C. bignonioides*, but the flowers are about the same size. They are spotted with pink and brownish red and have bronzy orange markings on several segments. Shown by the Hon. Vicary Gibbs.

Dianthus Mascott.—A sturdy and uncommon hybrid, much like a large flowered Sweet William, though the flattish heads are rather looser in habit. The deep pink flowers are delicately scented and have a small pale eye. It was raised by crossing Sweet William Scarlet Beauty with a single *Carnation*. Award of merit to Messrs. Ireland and Hitchcock.

Euonymus Wilsonii.—This bushy species, which was discovered by Wilson on Mount Omi, W. China, has coriaceous, serrated, dark green leaves and bears quantities of greenish flowers. Shown by the Hon. Vicary Gibbs.

Gloxinia Bacchus.—A very distinct, erect flowering variety which bore plenty of large, perfectly formed, very deep crimson coloured flowers. Award of merit to Messrs. Blackmore and Langdon.

Iris Citronella.—The most beautiful of all the *Iris*s in the Show. It is of *squalens* type, the standards are golden and the golden falls are heavily lined with carmine, which contrasts well with the golden beard. Award of merit to Messrs. Wallace and Co.

Iris ochracea cœrulea.—A very delightful *Iris*. The standards are copper coloured and the falls have brown reticulations with a yellow base. The blade is bluish, shading to copper. Award of merit. This variety was raised by Mr. Denis of Ealarueles-Bains and shown by Mr. W. R. Dykes.

Lathyrus pubescens.—Although introduced from Chili in 1840, this beautiful blue perennial *Pea* is not at all common in gardens. It is generally considered to be a greenhouse climber and it received an award of merit in 1903. Some very floriferous sprays were shown by Sir William Lawrence.

Lupinus polyphyllus Six Hills Strain.—This new strain of *Lupinus* is all that can be desired in habit, form and colouring and in addition possesses that precious gift of fragrance and for this it

received the award. A very large exhibit was made. Award of merit to Mr. Clarence Elliott.

Mimulus luteus flore pleno.—This variety is so floriferous that the plants become a mass of glowing golden yellow colour. The flowers are of the hose-in-hose type. Award of merit to Messrs. B. Ladhams, Limited.

Odontonia Merope var. vivicans.—A large flower of *Miltonia*-like appearance and deep purplish mauve colouring. The circular lip is deep rosy mauve with a red mask and yellow crest. First class certificate to Messrs. Charlesworth and Co.

Papaver orientale Thora Perry.—One of the useful pigny *Oriental Poppies* bearing silvery

flowers enclosing a central mass of very dark crimson stamens. Award of merit to Mr. Amos Perry.

Potentilla fruticosa var. Farrerl.—A pretty little shrubby plant which bore large quantities of clear golden flowers. Award of merit to Mr. Amos Perry.

Pelargonium Pink Profusion.—A compact and floriferous "Ivy-leaved *Geranium*," which bears good trusses of very bright rose pink flowers. Shown by Messrs. F. Woolman and Sons.

Pyrethrum Eileen May Robinson.—A beautiful single variety of pale pink colouring, tinted light mauve. Award of merit to Mr. H. Robinson, Hinckley, Leicestershire.

THE SUMMER PRUNING OF FRUIT TREES

It is the bounden duty of a fruit grower to give full encouragement to his trees. Summer pruning or pinching is a direct aid to fruitfulness and it ought, therefore, to be regularly practised.

CULTURAL tasks in the fruit garden come forward with the seasons, and their successful accomplishment depends about equally upon the promptitude with which the work of the moment is put in hand and the soundness of the lines on which it is carried out. There is, perhaps, no detail of fruit management in which skilful growers differ so widely, as well in system as in the manner of procedure, as in summer pruning—or, as my best mentor in all fruit training, Mr. Morle, of Veitch's Southfields Nurseries of long ago, insisted on calling it, summer "pinching," although he used his knife with much more freedom than he did his fingers. And yet these masters of fruit culture do not drift from the primary objectives—the building up of perfect buds for the future and the assisting of the finish of the burden of the day—though, admittedly, they travel towards them by devious routes. But what, when all is said and done, does the particular road matter provided that the ultimate end is won?

The one outstanding, really substantial objection to summer pruning is the comparatively great amount of time that it demands. It is essentially a matter of judgment, backed by skill in manipulation, and it therefore devolves on the head-gardener personally or on the most trusted member or members of his staff. In this relation one might cross swords with gardeners under whom one has worked for their refusal to help the juniors, not simply by demonstrating the work to them, but by carefully explaining the whys and wherefores of the several details. If the chief does not feel disposed to teach all his staff he should, for the maintenance of the credit and status of his avocation, teach one or two thoroughly and encourage them to pass the knowledge on to others. This, however, is a digression.

The point is that summer pruning consumes a considerable amount of time which can be ill-spared from other and, perhaps, reputedly more important operations. This, presumably, is why it is almost wholly neglected where the staff is barely adequate to the demands made on it, and is a sound reason for total neglect where the strength is obviously unequal, as, unfortunately, is frequent, to cope with even the imperative work. If it were permissible to do in a private garden what is often done in a commercial plantation, namely, simply break over the summer shoots about the middle of August, good would be done undoubtedly; but the ragged, untidy appearance of the half-separated dying growths would be like so many heralds of the coming of the end of

the world—at least, as far as the gardener's tenure of his position was concerned.

It is impossible to state an inflexible rule as to when summer pruning must commence, since there will be variations with every year and garden and in lesser degree with every tree, but the season will always be covered by the period mid-June to mid-July, and the operation will finish during the first half of September, all subsequent cutting being relegated to winter pruning. There are cultivators who are prone to hasten the work forward, but in no circumstances should it commence until the leaves are perfect in size, no matter how freely the shoots may grow or how numerous they may be. That over-anxiety to start before the leaves are full-sized leads to an increase of labour, because lower buds than commence quickly and lead to crowds of young shoots which can never have substantial value; on the contrary, they are a nuisance. For equally sound reasons the start must not be postponed too long, because this spells long, vigorous growths which appropriate to themselves the sap at the same time as they shade fruits and spurs, and whose sudden, wholesale reduction will inevitably prejudice the health of the tree of the moment and the future prospects very seriously.

Speaking in the broadest sense, and taking no cognisance of the minor peculiarities of individual varieties, the summer pruner will have three types of growth always before him, apart from the leading shoots, which will be accorded a few words of special consideration. There will be, then, the stubby shoot carrying a bold, plump bud in a ruff of fine leaves; this is a spur, and the question of pruning or pinching does not arise in connexion with it. Then he will find the short shoot with six or eight leaves, conspicuous buds in the axils and a bold, plump bud as a terminal; again pruning or pinching does not arise in association with it. Finally there is the clean, healthy young shoot bearing about one dozen leaves, all of which are perfect in development, and this must be reduced to three leaves, exclusive of the two small ones at the extreme base. Following upon this there is every probability that two of the three reserved buds will break into growth, and when these have made about six perfect leaves they should in their turn be reduced to one leaf. From these will spring sub-laterals, each of which should be pinched to one leaf, as, in point of fact, must be all growths made subsequently.

Turning now to the leading shoots—extensions, as they may be termed correctly. There is a marked inclination on the part of inexperienced

growers to cut these hard back both at summer and winter pruning, under the supposition that this will check any tendency towards exuberance and lead, therefore, to superior crops. No such result will, or can, accrue. Excessive luxuriance must be suppressed by root pruning when the leaves are coming down in autumn, or by ringing, both in intimate association with scrupulously careful winter pruning.

Leading or extension shoots on bush and pyramid trees must be permitted to proceed to a length of at least 12 ins., when they should be stopped. Immediate swelling of the lower buds will follow,

and shoots which spring from the uppermost buds ought to have their points removed when three perfect leaves have developed, but not sooner; any subsequent growths should be pinched to one leaf, as made. The same principle of procedure in regard to extensions should be applied to side shoots on trees trained on restricted lines, except in the case of those trained in horizontal form. Herein it is highly important that each leading growth shall be trained in to its full length until such time as the available space is furnished, after which the suggestions set forth above will apply with equal force here. W. H. L.

CAMPANULAS ON THE GALIBIER IN JULY

THE Galibier Pass is a good place to visit in June, when the meadows are full of Poets Narcissus and sumptuous Anemone alpina. In fact that is, for several reasons, the pleasantest time to visit it. Yet to me it will always remain the place of all others at which to see *Campanula pusilla* and *C. linifolia*, and to find these at their best you must go in July. Neither species is rare. In fact, both are extremely common; but both are of absolutely first-class importance in the

almost impossible to define the difference. For many years now I have grown, as type *linifolia*, a very beautiful specimen which I picked out at Mt. Cenis. It is a sturdy grower, 6 ins. high, with very large bells of a gloriously rich glossy purple. At the same time I collected a charming pallida variety, with shining silvery lavender blue flowers. Also there is a white form.

At Lautaret in July, 1921, we potted around doing a lot of rather dull conscientious collecting until almost the end of our time. Often we



A CHARACTERISTIC AND CHARMING FORM OF *CAMPANULA PUSILLA*, THE VARIETY MISS WILLMOTT.

garden, so easy to grow, so exquisitely lovely, so profuse in flowering. Both, too, are variable plants. *C. pusilla* has given us besides several pallida forms and the delicious little alba, two such great plants as Miss Willmott and Miranda, which reminds me, by the bye, that *pusilla* should not be called *pusilla*, but *bellardi*, though it seems very doubtful if we shall ever abandon *pusilla*. It is now some years ago that *C. pusilla* Miss Willmott set Holland House on fire. Miranda is a later find, of Farrer's, and one of the best things he ever brought from the Alps, though hitherto it has not caused the conflagration one might have expected. *C. pusilla* is widely distributed in the Alps as a common roadside plant. It haunts broken shaley ground, never occurring in meadow turf. Occasionally it will turn saxatile, finding its way into a running crevice in some big rock, from which it hangs its bells so closely packed as to suggest a vein of some coloured ore in the rock. *C. linifolia*, too, is happiest in broken ground, though, unlike *pusilla*, it will sometimes venture into the grass. *Linifolia* is very near our own native Harebell (*C. rotundifolia*). One can never mistake one for the other, though it is

looked across the valley which runs down to Briançon, from which branches back and up the great Galibier Pass. One can see the road mapped out on the mountain sides, snaking and looping away and away up in gigantic coils, and we felt we must in the end face that long, high, tedious road-crawl, though we kept putting it off to the last. In the end we chose a Sunday to escape the dust and crowds which Sunday *chars-à-bancs* always bring to Lautaret. The lower reaches of the tramp were, from the flower point of view, dullish. The meadows, through which we made short cuts, were now hayfields, either cut or ripe for cutting. In June the year before they had been lawns of Gentian and Soldanella and all the other small early brethren. But now it was good to find and to smell the purple Martagon Lily. By midday we were half way up the pass, and there on a rocky roadside promontory we sat and discussed our nosebags and watched through glasses the arrival of minute *chars-à-bancs* at the hotel away down below. We watched, too, the awful descent by a *char-à-bancs* of our own Galibier road. It lurched and lumbered and swung adown and around most frightful hairpin

corners. There seemed no reason why it should not lurch over the edge, yet it never did. And it seems they seldom do, these Alpine *chars-à-bancs*. I enquired of a native about it. One did roll over, I was told, the year before, making seven pirouettes down a scree, shedding a passenger at each pirouette, yet none were killed! Then we visited a big scree up behind our feeding perch to get *Anemone baldensis*. It is an attractive plant in a quiet sort of way as it rambles through the stone slides with its parsley-like leaves and pallid star flowers. But it seems never to have taken a very firm hold on English gardeners or their gardens. On this same scree was *Campanula Allionii* looking as though a child had pulled all the blossoms of a Canterbury Bell and flung them on the ground. This, too, likes to ramble in scree. An astonishing plant with its splendid colonies of giant bells sitting practically stemless on the ground. It is the earliest *Campanula* to flower at home, and is quite easy to manage in moraine or even in ordinary light loam. A splendid plant, too, for a pan in the alpine house, and one which never fails to astonish.

Then we set ourselves to toil up the last half of the pass, and here the *Campanulas* began, *pusilla* and *linifolia*, and the higher we got the more wonderful they became. It was slow work, for the two species varied so widely and enchantingly that one had to examine every colony and every drift on the look-out for distinct forms. They grew everywhere, on the banks and all over the screes, filling whole gullies, above the road, below the road, and even in the roadside gutters. Some of the most astonishing *linifolias* were dwarf-stemmed forms with enormous bells of deepest glossy purple, and there were fat bells, narrow bells and trumpet bells of that curious form which *Narcissus triandrus* imparts to the trumpets of its offspring. The most enchanting of the *pusillas* was a wee dwarf, very low growing and compact, with minute round bells drawn in at the mouth like a Japanese lantern. And yet I don't know; there was a luminous pale blue beauty in great colony on an almost inaccessible slope above a waterfall. As it grew there it promised to make Miss Willmott (the *Campanula*) look positively dowdy and Miranda a washed-out fat bag of a thing. The sad thing is that two minutes after you have collected these *pusillas* they lose all their brilliance and charm. They look dull and draggled, and as you look at them you wonder why on earth you collected them. However, each as it was collected was wrapped separately and labelled "Big bell," "Baby bell" and so forth, and all are now supremely contented and happy and satisfied in numbered pots. Just near the top of the pass is a house which looks as though it ought to provide coffee. It is a great Jure. It helps one up the last wild flourishes of road, and there on a clothes line are road-menders' socks and a notice that refreshments are *not* provided. Almost we hated the last highest splendour of the *linifolias*, which here predominated and were more abundant and brilliant and bewilderingly varied in form than ever. At the top of the pass the road plunges through a long, dark, dripping tunnel, and from its gloom one bursts at the far end upon a marvellous view of sunshine and mountain far, far across to Mt. Blanc. Upon screes to the right of the descending road we found *Ranunculus glacialis* and *Geum reptans* abundant. After browsing here we sat in the sun and watched a motor cyclist tuff-tuffing away down the looped ribbon of a road miles down the pass till even through the glasses he was a speck which finally disappeared, apparently over a precipice, and probably round a corner. And so home to our Lautaret Hotel.

Stevenage.

CLARENCE ELLIOTT.

CORRESPONDENCE

COLUMBINES.

I AM a strong believer in sowing seed of alpine and other wild plants as early as possible in the autumn. In the case of hard coated seed I adopt occasionally the plan of sowing in stratified pots, *i.e.*, between layers of sand. That it can be overdone I have proved several times to my disadvantage in the case of Columbines. Fresh seed of *Aquilegia alpina*, obtained from Lautaret and sown on November 20, 1920, did not germinate until end of May, 1922. Perfectly sound seed of *A. flabellata* failed to germinate when sown in sand. Thus I have come reluctantly to the conclusion that it may be a distinct disadvantage to sow Columbine seed before spring.

I was under the impression that *A. alpina* is a perennial plant and it has certainly proved so in my garden. As a rule flowers of this species in gardens do not compare favourably with those of the mountains. One exception is a specimen in my alpine meadow, which was a picture of perfect loveliness and lasted a week longer than others planted in earth containing plenty of chips. To obviate disturbance of the root, transplant into small "Long Toms" when in the cotyledon stage.

This mixture in a hot Surrey garden is not to the liking of *A. iucunda* (*glandulosa*), which lingers on for years without ever flowering. The same applies to *A. calcarata*, only it vanishes more quickly. *A. flabellata*, waxing too fat on a diet which seemed none too rich, disappeared in winter 1920-21, and I believe this species does not love too much sun. *A. Stuarti* must now be considered a chimera and is no longer in cultivation.

The writer of the article on Columbines (page 262) did not draw attention to *A. pyrenaica* and its local varieties, all, as a rule, good and desirable garden plants.

Before closing I must mention another little known and beautiful specimen, *A. olympica*, blue and white, a strapping plant nearly 2ft. high and a fine deer. From my notebook I remark that my plants were raised in 1912. It comes nearly always true from seed and I shall be pleased to exchange a few packets of seed, when ripe, with your readers against seed of *A. calcarata* and *A. viridiflora*. I have been unable to obtain the latter true from dealers in seed. By the way, do you or your readers know of a Monograph on Columbines?—P. R. CURTWINO, *East Molesey*.

The Editor knows of no such monograph. Will any reader who does give us the benefit of his knowledge. Ed.]

THE GREEN COLUMBINE.

I WOULD that some reader could tell me where I might procure seed of the unusual *Aquilegia viridiflora*. It is well worth a place among the choicest plants in border or rock garden, although it always seems to be trying to escape notice by reason of the curious sage green colour of its flowers. I have seen it, and very beautiful it is, both in form and colour: a strong-growing plant, native (I believe) of Siberia, but who has it or where seed can be procured, alas! I do not know.—H. W. CANNING-WRIGHT.

A GRAFT-HYBRID.

I AM enclosing two sprays of bloom cut from my freak *Laburnum*. Every spring, in addition to the ordinary yellow blossom, there are sprays of different colours and apparently of different habit. Perhaps one of your readers could explain this. DUNCAN BARR.

The sprays sent (and illustrated herewith) were of *Laburnum Adami*, a graft-hybrid produced

accidentally as long ago as 1825, between the common *Laburnum* (*L. vulgare*) and the Purple Broom (*Cytisus purpureus*), which is commonly grafted upon the *Laburnum*. This tree always shows a tendency to produce specimens of the growth



TWO SPRAYS OF *CYTISUS ADAMI*,

Showing ordinary yellow *Laburnum* blossoms on left; purplish blossoms and characteristic growth of *Cytisus purpureus* at the top right hand and intermediate flowers and foliage in the centre.

and flower of both parents in addition to the intermediate cream-pink form.—Ed.]

THE ROTATION OF CROPS.

THE letters (pages 193 and 220) on this well-worn subject adhere more or less rigidly to orthodox lines which imply that rotations in the vegetable garden are desirable and even hint at their necessity. The most popular arguments in favour of rotational planting are that crops are superior in appearance, flavour and bulk; that they enjoy a comparatively greater immunity from insect and fungus enemies, and that they spell economy in manuring. On page 220 "J. F." urges, further, as a substantial merit that "the sowing or planting of a deep-rooting crop after a shallow rooting one enables the plants to feed at different levels in the soil, and to draw nourishment from the upper and lower spits in different years." I must join clear issue with this correspondent. The first part of his argument puts a premium on shallow cultivation, which is wrong for all soils, light, medium or heavy; and the second part ignores the natural law of moisture rising in the soil, this moisture carrying the elements of plant nutrition in suspension. Neither "J. F." nor any other cultivator can afford to rely on shallow soil culture any more than either can doubt that if moisture did not rise in the earth, crops would not flourish. I long ago convinced myself that rotation is in no sense necessary in the vegetable garden, and I have been successful in converting others to my view. The secret of success—the honest attainable in appearance, quality of flavour, human food value and bulk—in vegetable culture no more lies in the worshipped rotations than it does in the manure heap. Success lies in deep, mechanical culture carried out in the most thorough manner at the correct season, in the provision of a firm

bed for seeds and seedlings, in avoidance of the water pot until the very hour of compulsion, and in incessant surface working, though not always with the over-glorified Dutch hoe. It is, of course, imperative that there shall be periodical additions to the soil of a material which will maintain the humic content, and man's vision is drawn by the force of inherited habit to the heap of stable or farmyard manure, or, but in much lesser degree, to the incorporation of green crops. For myself, I would rather have, and should have if I could afford it, half a ton of Wakeley's hop manure or Rito than 20 tons of most of the impoverished stuff which is dignified by the description of "farmyard manure." If I lost a little in food it could easily be given to the growing crop in the form of one of the several excellent compounds advertised weekly in *THE GARDEN*, and if I thought that a stimulant was required there is nitrate of potash, or, and even better on occasion, a mixture of equal parts of that and phosphate of potash, and sulphate of ammonia waiting and unflinching. As for insect and fungus enemies my experience is that they come, rotation or no rotation, and the sensible man keeps himself in readiness to attack them with promptitude and vigour.—W. H. LODGE.

BEGONIA MITE OR RUST.

THIS pest has for many years caused widespread damage among indoor plants, its attacks not being, as the name might imply, confined to Begonias alone. Other plants that are commonly attacked are Bouvardias, Gloxinias, Streptocarpuses, Achimenes, Cyclamens, Celosias, Solanums and *Lucentia gratissima*, while all Gesneraceous plants are subject to attack. The name "rust" is understandably applied to the rusty appearance of the injured parts. The damage is usually confined to the growing points of the shoots, although in bad cases the injury may extend to the underside of the older leaves and even to the stem of the plant. Even now many cultivators do not associate an insect with the injury, which is perhaps not surprising, since for long enough it eluded the entomologist. When specimens of injured plants were received by post there were never any mites present on them, as they seem always to leave the specimen, so that the packing material must be examined if they are to be found. At present this mite is generally known as *Tarsonemus floricola*, Cau. and Fau., but it seems that its identity and life history have never been properly worked out. For many years the entomologist—or plant doctor—failed to find an effective remedy for this pest. Spraying with nicotine compounds, weak solutions of carbolic acid, soft soap and flowers of sulphur, proved more or less effective, but often caused serious damage unless great care was taken. Such was the state of affairs until a few years ago, when a private gardener discovered that the use of Campbell's Sulphur Vaporiser proved a cure for it, and what is of prime importance is the fact that it is an absolute preventive, some three or four applications in the course of the season being sufficient to keep plants free from this pest. The apparatus is quite safe if the instructions issued with it are carefully followed, and it is well known to Grape growers, who use it for mildew and red spider. In the latter connexion it is interesting to note that the Begonia mite is said to be nearly related to the red spiders.—J. C.

A TOO-SELDOM SEEN RHODODENDRON.

RHODODENDRON *IVERIANUM* or Ivery's Scarlet—the most brilliant variety mentioned in a recent issue of *THE GARDEN*—was raised many years ago by a man named Ivery, who carried on the business of a nurseryman in Dorking. The

land he cultivated has long since been built over, but I believe some of his descendants still live in that town. Some of the largest plants of this variety are growing in gardens around about Dorking, and a bush in these gardens about 12ft. in height and the same in diameter, was this year at its best in the middle of May. It carried thousands of trusses of flowers and was a gorgeous sight. Although raised so many years ago it is still comparatively rare. Probably because it does not flower freely in a young state, but after the plants reach the age of eight to ten years they will flower freely enough. Plants in full sunshine flower more freely than those growing in shade, and the colour does not burn, so one need not fear to plant this variety in full sunshine, but it must have shelter from wind. The habit of the plant is good; it does not get leggy, and the long, narrow, acutely pointed dark green leaves are a splendid foil to the brilliant scarlet flowers. The stamens are white, which serve to intensify the colour. The trusses are compact and of good size, and altogether this hybrid is undoubtedly the very best of its colour, flowering from late April through the whole month of May. There are two unusual features about this *Rhododendron*—namely, that it is freely visited by honey bees; that it is only on a very few flowers that seeds are produced.—S. W. PHILPOTT, *Anstie Grange Gardens, Holmwood.*

NATURE'S WALL GARDEN.

THE picture showing nature's planting of a dry wall, taken in the Island of Sark, is, I think most readers of THE GARDEN will agree, quite as effective as, though perhaps less brilliant in colouring than, man's efforts in this direction. *Sedum*, Pennywort (*Cotyledon Umbilicus*) and Lichen each do their part to give tone and beauty to the wall, without in any way obscuring the



A DRY WALL OF NATURE'S CLOTHING.

texture and natural beauty of the stone, a point too often overlooked by planters.—G. HARVEY.

BABY TULIPS—A POSER ?

I DO not know how many visitors noticed the vases of "baby" Tulips in the front row of the exhibit of the Anglesey Bulb Growers at Chelsea. The one that attracted me most of all was *Millet*, but there must have been at least half a dozen more. Mr. Watts, who was in charge, told me that when he had had a big "Tulip At Home" the previous week, his wife had decorated all the tea-table with these "babies" and that their visitors had gone mad about them. I know it would be so. My own housekeeper, who arranges flowers beautifully, is always asking me

if we could not grow some of these. She thinks there is nothing like them. In most years, however, we only get an odd dozen or two in many hundreds; hence her wish for more. This year they are much more plentiful; in fact, in our bed of about five hundred early *Tulip La Tendre*, practically every bulb put up a second "baby" flower. I suppose this must be one result of last year's baking summer. The question then arises, can the same productiveness be brought about by artificial means? I do not remember to have noticed anything of the kind having taken place on the occasions when I have put the bulbs in heat for the purpose of retarding their blooming in the following spring; nor can I say now if a similar thing occurred after that black year in *Daffodil* history, 1911, when we had quite as warm a summer as the last one. Can any of our English or Dutch growers throw any light upon the subject?—JOSEPH JACOB.

KEW GARDENS ON WHIT MONDAY.

"ONE is nearer God's heart in a garden than anywhere else on earth." Personally, I did not think so when I visited Kew Gardens on Whit Monday. On the Saturday before, the Gardens were delightful, but on the Monday it was as though Kew had been transferred from Paradise to Bedlam. There were, so I am officially informed, 54,005 people in the Gardens on that Monday and I should think that every person (except myself), took in 3lb. of oranges and three or four bananas, to say nothing of paper parcels, and largely spent their time scattering peel, skin and paper about.

Never before have I seen the Gardens in such a disgraceful condition, in fact, I believe it rivalled Hampstead Heath. The Gardens are intended primarily for those really interested in horticulture

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Planting Brassicas.—Take advantage of all dull or showery days to get as many of the various Brassicas planted as will be required to meet the demands. Remember to allow of a good margin, if possible, to meet depletions by unfavourable conditions or from any other cause. See that Broccoli and other plants which have the winter to stand make their growth on firm ground. One good watering at time of planting and the latter firmly done, is generally sufficient to give a start to the majority of the Brassica family, but Cauliflowers should be frequently watered copiously during hot spells.

Cucumbers in vigorous growth and fruiting in houses or pits must receive regular attention in stopping and regulating the growths and the removal of exhausted foliage. Keep the roots in a healthy active condition by occasional top dressings of spent mushroom dung and good loam, and render the plants further assistance when cropping well by giving them thorough soakings weekly of diluted farmyard manure water, and by an occasional dusting over the whole bed with a good fertiliser, watering the same well in when applied.

Leeks.—As soon as convenient after this date the main batch of Leeks should be got out, choosing a well manured piece of ground, for the plants delight in liberal treatment. A suitable method to follow when dealing with a quantity of plants is to draw out deep drills 15ins. apart and then with a good dibber or bar make deep holes about a foot apart into which the young plants should be carefully dropped and each hole filled up with water to give the plants a start. Little, if any, soil is necessary in the holes at planting time. Where an early planting of Leeks was made to provide large specimens, the plants should be well supplied with water when necessary and occasionally thoroughly soaked with weak manure water.

The Flower Garden.

Climbers are all in vigorous growth and must receive periodical attention as regards tying and regulating of the growths before they become hopelessly entangled among other plants near at hand. A certain looseness of tying and training should be followed as much as possible where such does not interfere with the display of other plants. In dealing with Clematis though, particularly, a few strong shoots over other plants or their supports may often be made an interesting feature. Among Roses on walls, pergolas, etc., Clematises always add to the good effect, so long as a little discretion is used as regards colour combination and they may often be associated to advantage with plants which give a very early display and are somewhat dull afterwards, also among plants which are grown for an end of season display or for foliage effect, such as *Vitis*.

Violas are not so largely grown in Southern as in Northern gardens, and it is, I think, because of the amount of attention required, particularly during hot seasons, such as last, when it was almost impossible to keep any life in the plants. All spent blooms should be regularly removed and the plants mulched with leaf soil and spent manure if they are expected to last in good condition very long on dry soils. To provide an early display of blooms old plants are the best and enough should be lifted and divided and afterwards placed in lines in cool ground in the reserve plot and then placed in permanent positions in the autumn.

The Hardy Fruit Garden.

Thinning Fruit.—No hard or fast rules need be adopted in dealing with this work as so much depends upon the health and vigour of the trees and upon other conditions, such as the aim of the grower respecting size of fruits desired, and upon the amount of attention it may be possible to give to the trees in constant waterings, cleanings etc., thus rendering it possible in some cases to carry a crop much heavier than in others. One essential point to bear in mind is that when the health of a tree is not satisfactory, and where, owing to staff depletions the necessary amount of time is not available which should be spent upon the care of the trees, then overcropping must be carefully guarded against. Newly planted trees and very weakly ones should be cleared of their fruits in order to concentrate all energy upon the work of building up the trees for future crops.

research. Surely it is up to the public not to disfigure the gardens in this way, because such conduct may close the Gardens to them at holiday times. Next Bank Holiday I, for one, shall certainly stay at home.—HORRIS.

FORTHCOMING EVENTS.

June 21.—Southampton Horticultural Society's Rose Show, Hertford Horticultural Society's Meeting.

June 22.—Royal Botanic Society's Meeting.

June 24.—Windsor Rose Society's Show.

June 29.—National Rose Society's Summer Show, to be held at the Royal Botanic Gardens, Regent's Park, London.

Fruits Under Glass.

Figs.—The unfavourable climatic conditions experienced during early spring necessitated the use of considerable heat in the hot water pipes where early fruits were required. Where this was the case a keener look-out than ever must be kept for attacks of red spider or thrips, for each of these pests quickly become a nuisance when a sudden hot dry spell follows a cold spring, like it did this year during the month of May. The best antidote to such troubles is to give the tree thorough drenchings twice a day with the syringe. Even when Figs are ripening the syringing will not harm very much as the forwardest fruits may easily be removed first, and it is better to sacrifice an occasional fruit than have dirty trees, especially when there is a second crop to be thought of.

H. TURNER

(Gardener to the Duke of Northumberland).
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Cucumbers.—Red spider is a troublesome pest at this time, and unless checked by vigorous syringing of the plants and regular damping of the beds, the crop will to a great extent suffer. Dryness at the roots, and a hot, dry atmosphere, are the primary causes of red spider, so guard against this by affording liberal supplies of moisture and give occasional applications of liquid manure. Regulate the growth, removing all superfluous shoots and cut off the fruits immediately they attain a suitable size, standing the fruits stalk end in water if not immediately required. Frame cucumbers must also have their growths regulated, pegging down the leaders and top-dressing as required.

Savoys.—This popular Cabbage should now be planted in quantity for winter use. Plant the strong growing sorts in rows 2ft. apart and 20ins. between the plants in the row. The dwarf varieties, such as Little Pixie, may be grown much closer, 18ins. between the lines being ample, allowing 15ins. between the plants in the row. These dwarf kinds are highly esteemed for household use, being of convenient size and of excellent flavour.

Late Cabbage, such as Winningstadt, should also be planted now, and accorded a well enriched piece of ground, so that the best results may be obtained. For northern gardens, Winningstadt is probably the best keeping of all the late Cabbages.

Asparagus Kale.—For use during the spring months this popular Brassica should be planted by the middle of June, as it is essential that the plants are of good size before the winter sets in.

Peas.—A final sowing may yet be made, but it is advisable at this time to revert to an early variety. We find Gradus the most suitable of the earlier for this purpose and a good sowing at this date ensures excellent pickings on until the frost comes.

French Beans.—Further quantities of these should be sown now for succession, as it is always desirable to be able to procure fresh pods of this delectable vegetable as far into autumn as possible. For general cropping Sutton's Evergreen can be commended. This sort keeps in usable condition for a lengthy period.

Leeks.—The principal planting of Leeks should now be made, choosing ground which has been heavily manured, as this vegetable is a gross feeder. Draw deep drills and dibble the plants into fairly deep holes, dropping a very little soil over the roots. Liberal waterings should be given during dry weather and copious supplies of liquid farm-yard manure should be given as soon as the plants are established and growing freely.

Fruits Under Glass.

Vines.—It may be necessary at this time to subject the second viney to another thinning, for where the vines are in a vigorous condition the berries swell rapidly and generously show that no matter how judiciously the first thinning has been carried out, there are yet many berries that may be dispensed with. Added care must be taken so that none of the bunches may be damaged in the process. All sub-lateral growths must be kept in check up to the time the berries are stoning, when this work may be relaxed for a period. Examine the borders at intervals, and water thoroughly when required, so that the soil may be moist throughout.

Peaches in Pots should be assisted with generous waterings of well diluted liquid manure. Syringe

the trees in the evening so that clean healthy foliage may result.

The Hardy Fruit Garden.

Young Fruit Trees which were planted during the spring months will suffer readily should a lengthy spell of dry weather prevail, so water should be applied freely. Also mulch with well rotted manure. Should manure be scarce, the mowings from the lawn may be used and will prove an excellent check to evaporation.

The Flower Garden.

Rose Beds.—Hoe vigorously all beds and borders in the rose garden, keeping a sharp look-out for maggot, otherwise many of the flower buds may be destroyed. Attacks of aphids may be averted by timely spraying with quassia.

Aquilegias.—Seed of these elegant plants should be sown at this time in boxes in a cool frame, transplanting immediately the seedlings are of a suitable size. The varieties now procurable from a packet of seed are wonderful. The flowers are eminently suitable for decorative purposes.

JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.).
Coodham Kilmarnock.

GREENHOUSE AND CONSERVATORY

Rehmannia angulata is an excellent plant for the cool conservatory, remaining in flower as it does for a good many weeks. It is really a perennial and may be propagated each year from off-shoots, but the best results are obtained if it is raised from seed every year. Seed should be sown now, standing the seed pan in a cool house or frame. When large enough to handle the seedlings should be pricked off into pans or boxes, afterwards potting them up as they require it. By the autumn they should be in 5in. or 6in. pots, in which they may remain all the winter, growing them throughout in cold frames. Early in the New Year they should be transferred into their flowering pots, which are 8ins. or 9ins. in size if good specimens are desired. During all stages of their cultivation these plants do quite well in any good potting compost. Seedlings vary somewhat in colour, this seed should always be saved from selected plants.

Rehmannia kewensis is a hybrid between *R. Henryii* and *R. chinensis*, and is also worth growing for the cool greenhouse, and succeeds under the same cultural conditions as *R. angulata*.

Gilia coronopifolia is a beautiful biennial that is deserving of more general cultivation for the cool conservatory. It is easily raised from seed, which should be sown at this time in a cool greenhouse. When large enough to prick off the seedlings should be placed in pans containing light rich soil. They should afterwards be potted into thumbs, and again into sixty sized pots, in which size they should be wintered. This plant requires some care—especially in the immediate neighbourhood of London—to bring it safely through the winter months; for like many other Californian plants it is very impatient of stagnant moisture during the winter. I find it winters best on a shelf in a cool, airy greenhouse, during which time only enough water must be given to prevent the plant from shrivelling, taking care not to wet the foliage. Early in the New Year more water must be given, and as the plants commence to grow they may be potted into their flowering pots, which should be 6ins. in size. A free compost, good drainage and careful watering at all times is essential for the successful cultivation of this plant and well grown specimens should attain a height of 3ft. or 4ft.

Euphorbia pulcherrima (The Po'insettia).—Many cultivators make the mistake of propagating this plant too early. The middle of June is quite early enough for the first batches. This plant is easily propagated by pieces of the old stem cut into lengths of some 2ins. Some gardeners contend that such good results are not obtained by this method; personally I have not found any difference. In any case the usual procedure is to use young shoots about 3ins. in length as cuttings, leaving a shaving of the old wood at the base of the cuttings. As they bleed freely the base of the cuttings should be dipped in finely powdered charcoal, and should then be inserted singly in small pots and plunged in a warm propagating case, taking care that they are not allowed to flag. When rooted they should be potted up, and after they are established they should be removed

to an intermediate house for a few days, and then to a cold house or frame, where they should have plenty of air and full exposure to the sun, removing them to a warm house during September.

Chrysanthemums.—If these are not already in their flowering pots, no time should be lost in getting the potting completed. The potting compost should consist of good medium loam chopped up roughly, with the addition of a little leaf soil, or old mushroom-bed manure, and enough coarse sand or old lime rubble to render the whole porous. A forty-eight sized potful of fine bone meal should be added to every bushel of soil, about the same quantity of soot may also be added, but no artificial fertilisers should be used at this time. The plants should be firmly potted, and if large specimens of the decorative varieties are required, three plants should be put into 8in. or 12in. pots. Single plants should be placed into 8in. or 9in. pots. Instead of standing the plants out in their summer quarters at once, as is too generally done, it is better to stand them closely together for a few weeks, as moister and therefore better growing conditions can thus be maintained. It is also much easier to syringe the plants several times a day.

J. COUTTS,

Royal Botanic Gardens, Kew.

THE PROPAGATION OF THE SCOTCH ROCKET

(HESPERIS MATRONALIS ALBA PLENA.)

THIS, one of the very choicest of hardy plants, is too often lost in gardens simply for want of a little knowledge of its habits and requirements. For a couple of years or so the plants thrive and flower splendidly, but "all of a sudden" they mysteriously die off and the cultivator is left lamenting. It is, of course, only fair to say that it is not on every kind of soil this floral gem will thrive, for unfortunately it is somewhat fastidious in this respect, and no matter how skilful the cultivator may be, the plants simply refuse even to remain alive in some districts. It may be grown grandly on a heavy clay loam, but it probably prefers a fairly rich deep loam of a light character. Division of the root-stock is often advised, but long experience has demonstrated that by far the best results are obtained from cuttings in early autumn. Many readers who have tried this plant will pertinently enquire where cuttings are to be had, as usually the plants flower so profusely that not a single side shoot is produced without a flower-spike. It is here that a little foresight is demanded. Two or three good plants should be planted in the reserve garden, and as soon as flower-stems appear these should be cut back, which will conserve the strength of such plants and in due course induce the latent buds near the base to break forth into vigorous growth after the flowering season is over. These side shoots, if taken off with a "heel" and inserted firmly round the edges of 5in. pots filled with very sandy compost, will soon form roots. The cuttings will root if placed in a cold frame, but as damp is the great enemy during winter, it is preferable to stand the pots in a greenhouse from which frost is just excluded. The Rocket will not stand being coddled, so give abundance of air after roots are formed. In early March pot off singly into 4in. pots, using good but not over-rich soil. Keep in the greenhouse for ten days after potting, then remove to a cold frame, gradually harden off and plant out where they are to bloom by the first week in April. Treated thus few plants can surpass the true Scotch Rocket as a border plant.

C. BLAIR.

Preston House Gardens, Linlithgow.

ORCHARD

GARDEN

WOODLAND

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THE TALL BEARDED IRISES

THERE is probably no genus of hardy plants which can equal the Irises for interest, beauty and that diversity of colouring which inspired their name. It is a most remarkable family and so widely distributed, alike in Nature and in cultivation, that it might well claim the whole world as its country."

The old type Germanicas, in which there are shades of white, blue, purple and violet, and which flower during May, must now be looked upon as out-dated garden plants. In the so-called Tall Bearded Irises there is far greater interest. They have a larger range of colour, are endless in variety, comprising innumerable shades and tones of colour in their sectional families of *amœna*, *neglecta*, *aphylla*, *squalens*, *variegata* and *pallida*. They make an appeal comparable with that of the Lily and the Orchid. Both in stature, foliage and habit many of the newer forms of Iris stand proudly beside the former, while for colouring, form, perfume and general beauty they may easily equal the latter.

It is generally accepted that the Tall Bearded Irises are the most showy and interesting section of the great Iris family. The tall, stately flower stems frequently rise to 3ft. and 4ft. with greyish glaucous foliage, which adds much to the effect of the branching flower scapes. Their delicately textured blossoms may be compared to the silken and velvet robes of queen or courtier.

Space would not permit me to dwell upon all I saw in the various collections at the recent Iris Show, containing as they did some of the finest possible types. I will, however, mention briefly just a few of those which appealed to me as among the finest, all certainly of first-rate merit.

Souvenir de Mme. Gaulichau, a tall and distinct deep royal purple, well built flower.

Bruno, a great beauty, where bronze and reddish purple pre- dominate.

Ambassadeur.—Standards, smoked reddish violet; falls, dark velvety red. Large, well balanced flowers.

Perry's White.—Standards and falls pure white. The largest and most stately I have yet seen; certainly the "Queen of Irises."

Lord of June, a perfect giant in Iris. Standards, lavender blue; falls, violet blue; the surrounding atmosphere completely permeated by its powerful and delightful perfume.

Robert Wallace, a real masterpiece in colour, being a rich ruby purple; well built flowers.

Marian Cran.—Standards, light rosy purple; falls, deep rose purple; white crest.

Lady Sackville, a most beautiful and well built flower; standards, broad and of a silvery shade of sky blue; falls, rich crimson purple; yellow beard.

Ma Mie, pure white, standards and falls beautifully frilled blue.

Neptune.—Standards, pale blue; falls, purple. Delightfully fragrant.

Isoline.—Standards, silvery rose, flushed bronze; falls, purplish old rose, golden throat, yellow beard.

Alcazar.—Standards, lavender blue; falls, deep purple, with a bronze veined throat, orange beard.

Black Prince.—Standards, purplish blue; falls, rich velvety purple, almost black; most distinct.

Iris King.—Standards, old gold; falls, rich bright velvety crimson maroon, margined gold.

Caprice.—Standards, reddish purple; falls, deeper, bright yellow beard.

Magnifica.—Standards, light violet blue; falls, long, deep reddish violet, reticulated brown at base; bold yellow beard; sweetly scented.

Ed. Michel.—Of very imposing appearance, tall, stately spikes, bearing distinct wine-red flowers.

Eldorado.—Standards, a curious combination of yellowish bronze shaded with heliotrope; falls, violet purple shaded bronze yellow, with clear gold beard.

Donna Nook.—Standards, lavender blue; falls, bright purple shaded lavender; large, well built flowers; tall, stately habit; highly perfumed.

Jacquésiana.—Standards, crimson copper; falls, rich maroon.

Lady Foster.—Stout branching spikes; standards, pale blue; falls, bluish violet, veined gold at base.

La Niège.—Standards and falls pure white; a good variety for front row of border.

Monsignor.—Standards, pale violet; falls, rich velvety purple, with paler edges.

Flammenschwert, a real acquisition, large well formed flowers; standards, rich yellow; falls, velvety crimson maroon.

Prosper Langer, larger than *Jacquésiana* and brighter in colour.

Queen Mary White, pure snow white, white beard.

Grevin.—Standards, violet, flushed and



TALL BEARDED IRISES IN A PERGOLA.

shaded yellow; falls, dark violet; large, well built flowers.

Nibelungen.—Standards, fawn, shot bronze; falls, violet purple, suffused bronze.

Princess Victoria Louise.—Standards, primrose yellow; falls, reddish purple, distinctly margined primrose; very effective.

Caterina.—Tall, stately spikes, bearing massive lavender blue flowers; falls, prettily veined at throat; sweetly scented.

Cherubin.—Wonderfully free; standards, white, flushed pink; falls, pale lilac.

Oriflamme.—Exceedingly large, well built flowers, sweetly scented; standards, bright blue; falls, dark purple.

Miss Dorothy Rowe.—Distinct branching habit, medium-sized flowers; standards, lavender blue; falls, deep reddish purple.

Rhein Nixe.—Standards, white; falls, rich violet purple, with conspicuous narrow white edge.

Mrs. Neubronner.—Standards and falls, deep golden yellow; flowers rather small.

Miss Eardley.—Standards, old gold; falls, crimson maroon, margined yellow.

Lohengrin.—A most beautiful *Cattleya*-rose shade; large, handsome flowers.

Minos.—Standards, light blue; falls, deep purple blue; free branching habit; sweet scented.

Mlle. Schwartz.—A tall, stately variety of French origin, bearing large, well built pale mauve flowers, much branched.

Pfauenauge.—Quite distinct; standards, olive gold; falls, curiously shaded, gold at the edge and deepening to plum towards centre.

Dawn.—Standards, pretty sulphur yellow; falls, bronze, bronze at throat.

Few plants respond more kindly to well worked ordinary soil than the Bearded Irises. To attain full-sized flowers and vigorous foliage, deeply worked soil should be the rule, and if lime is absent, the addition of a little is desirable.

It is well to transplant every three or four years, and the best season for transplanting is, should the weather prove favourable, as soon as possible after flowering. It, however, this cannot be done they may be planted quite successfully during the autumn and spring, with the difference that the plants do not attain their full height, the quality of flowers will not be so fine, and that sometimes they will miss flowering for a season.

The Bearded Irises are unquestionably the flower of the garden, as, providing they are given a sunny position, they will thrive equally well in the herbaceous border, on banks or slopes. I have seen them growing quite close to the water's edge on banks at such a distance that their toes, or roots, do not touch the water; also on the out-kirts of shrubberies. WILLIAM LOGAN.

WHEN TO TRANSPLANT

THERE is a widespread controversy as to the best time to move the giant Bearded Irises. Such arguments mostly arise with plants which are exceedingly difficult or exceptionally easy to transplant. In this case it is the easiness with which, given ordinary care, these Irises may be moved and re-established which has provoked the controversy.

It is certain that these plants have been transplanted successfully at every season of the year,

not excepting the dead of winter, but with choice and perhaps expensive varieties in question it is certainly not advisable to remove them after root action has ceased for the season. Removal immediately after flowering is often advocated, and where the ground is ready for them, this season can hardly be bettered. All through July the nurserymen will be propagating for themselves and sending stocks to all parts of the country to Iris enthusiasts who have proved this time the best at which to establish them. In many gardens, however, it would only be possible to plant or divide Irises at this season by disturbing the effect of beds and borders which, with so easily moved a plant in question, is certainly not worth while.

Early in September, while the ground still retains some of the warmth bestowed on it by summer sunshine, is an excellent time to plant, but not, let it be whispered, too good a time to order new varieties, since those most wanted may by then be sold out unless the order was placed betimes. Much depends upon the season, but as long as the ground is moderately warm planting may well continue. It is, however, a mistake to plant in January, for instance, in the hope of getting better flowers than with later planting. The only result is likely to be the setting up of rot among the unavoidably damaged thong-like roots.

Irises planted in March usually flower well—the buds are already formed in the heart of the plant—but are usually wanting in size and stature the first season. As to their behaviour the following year, the experts disagree, but with ordinary care they should again flower well.



THE MAGNIFICENT NEW IRIS BRUNO, A STUDY IN BROWNS AND PURPLES. NOTE THE FINE FORM.



IRIS KING WITH I. VARIEGATA AS COLLECTED IN THE BALKANS, SHEWING IMPROVEMENT IN SIZE AND SUBSTANCE.

THE USES OF MATERIAL

III.—THE ARRANGEMENT OF BEARDED IRISES.

THE newest of all the glories of the garden! Not that the Iris is new to the garden, for it has a history of hundreds of years, but in an incredibly short period it has swept into a popularity unique in the whole story of floriculture. Twenty-five years ago the Iris was a valued garden plant, no more, no less. To-day it has entered the ranks of the elect few, such as the Rose, Lily and Carnation. The evidence of this is not far to seek: The Iris Conference in Paris; a special Iris Meeting under the auspices of the Royal Horticultural Society at Vincent Square; special visits by the keenest and best informed men in America to both. Twenty-five years ago this was beyond our wildest dreams. Now the thoughts of the leading lights in the horticultural world have been for several weeks concentrated on the Iris.

There is no need to ask why this is so. "Beauty is the quality that makes to endure," and of all the flowers that to-day give to the garden-lover joy none is more fair in form, exquisite in colour variation, or subtle in appeal to the sense of beauty than are the wonderful Irises of June.

Many years ago I remember an old, old man who used to tell me all sorts of wonderful things about flowers that will never be found in books. He was not a learned man, but he had a faith all his own, or perhaps he invented one for my benefit. It was certainly a very beautiful faith. He said that the souls of mortals came to earth through the medium of flowers. The colours of the flower were indicative of the character of the individual whose body the soul would ultimately inhabit. There were no truly black flowers, because there were no characters entirely and altogether bad. There were few really pure whites, because they only inhabited the infants who died before they were conscious of good or evil. Some, like Tigrisias, were just those splendid stars that burst brilliantly on our social system for a short time and then disappeared. Red flowers were soldiers; blue, philosophers and scientists; rose and pink, poets and artists; yellow, misers and self-seekers generally; and so on. I am afraid I must have absorbed more of his teaching than was beneficial, for I must confess that I never walk among the Irises without unconsciously applying it. For this reason I am perhaps inclined to extravagance of language with regard to them. Moreover, there is evidently something in the flower that appeals to the romantic side of all who have dealings with them. The nomenclature of the many varieties is evidence of this. Look through a list of varieties and you will find that about 90 per cent. of the names are suggestive, commemorative or descriptive. One raiser goes to the pages of Shakespeare, and fits his flower with both name and character at the same time. Another sees his garden peopled with the romance and chivalry of Camelot and finds in Tennyson's "Idylls of the King" knights valiant and ladies fair who are to him so real that his choicest productions are found worthy to bear their names. Another finds his names in the departed glories of an Eastern Empire, while yet another sees in the pure depths of colour a "Blue Lagoon," or in dainty poise and spreading falls a "Blue Bird." Indeed, the Irises are more happy in their names than perhaps any other flower of similar popularity, which is due to the fact that no other flower offers quite the same romantic sublimity of beauty. Perhaps some

etymological purist will object to the use of the word "romantic" here; then I shall retort that one great writer has said: "The real and proper use of the word romantic is simply to characterise



"LACY" AND BEAUTIFUL, THE TALL FREE-FLOWERING IRIS DIMITY.

an improbable or unaccustomed degree of beauty, sublimity or virtue."

It is perhaps this very fascinating power over the senses that has detracted my thoughts thus far from the object with which I set out, namely, to write rather of the uses of Irises in the garden than of what they are. First, then, they are the finest of border plants, and this for several reasons. Long before their flowers appear their sword-like leaves furnish the herbaceous border with green and grey relief. The young growth acts as agreeable furnishing among the later spring flowers. When the time comes for them to open their flowers there is a colour range that will offer harmony or contrast to every other flower in season. If it is cool greyish lavender colour you want there are the Pallida forms, some very tall, such as Pallida dalmatica, others smaller in stature, but equally delightful as to colour; or if you require something very stately and imposing, free flowering beyond regret and of the most exquisite shade of soft rose-lavender, there is Sweet Lavender. Another giant of equally

soft colouring is Ann Page, perhaps the finest of its type, with everything that grace of form and delicacy of colour can add to magnificence of stature to recommend it. Others that come within the same colour group, of varying height and with many subtle distinctions of colour variation and form, are Drake, Mlle. Schwartz (too pale to be called blue, too blue to be called grey, but a gem in every way), Morwell, Ballerine, Goldcrest, Viola and others. Grouped with pink Lupins, surrounded by pink Heucheras, or growing in association with masses of the paler pink shades of Pyrethrums, they one and all delight the senses with that harmony of colour arrangement that gives to colour in the flower garden all its realised attraction. But a change will be desired, and it can be found in the warmer colouring of Iris King with its old gold standards and deep reddish maroon falls, or Marsh Marigold, a pale yellow and warm brown combination, Dusky Maid, Nibelungen, Maori King, Knysna and many others of which yellow forms an important item in the colour scheme. Most of these are sufficient in themselves so far as the colour in the border is concerned, but they associate well with the deep purple Lupins, near the bronze-green foliage of certain Pæonies, or with any foliage similar to that of Prunus Pissardi.

It is impossible to take all the various colour groups and deal with them separately, and it must suffice if I point out that the colour range is as rich and perfect as it can be. Pure white, white with delicately pencilled markings or varying suffusions, purples of deepest dye, violets rich and full, yellows that are all yellow, and yellows staining and suffusing every other colour, and a whole host of indefinite graduated colours that can neither be accurately named nor described, each of which will find its place in the well designed herbaceous border.

Another use for the June Irises is to mass them in bold groups in the open spaces in front of the shrubbery borders. Flowering and foliage shrubs play a much more important part in the garden proper than they once did. There is an infinite variety at our command to-day, and the shrubbery border is not the dull affair it was once. Even so, as the later spring-flowering shrubs are passing their best the Irises are invaluable in prolonging the colour effects until summer has asserted itself and such borders take on new attractions.

Nevertheless, it must not be assumed that I am advocating using Irises merely as temporary furnishing for existing shrubberies. Rather would I suggest that they are worthy of creating such associations for their own value; in fact, the garden can provide no more beautiful combination than groups of Irises backed by the sombre tints of the dark-leaved Japanese Maples. If the position is too exposed for these beautiful foliaged shrubs there are the Prunus Pissardi, Blietana and Moseri, Corylus Avellana purpurea (the purple-leaved Nut) and many others that will produce equally enchanting effects.

One of the most brilliant effects that can be produced is by associating Azaleas, preferably the later-flowering varieties, with some of the colder toned Irises. Mixed they cannot, or at least must not be. The soil requirements are quite different. Azaleas will not have lime; Irises, at least the June-flowering bearded section, require it. But there is one accommodating factor in the case, that whereas you can hardly extract lime from the soil that contains it, you

can apply it locally to such plants as require it. A broad open glade through woodland, a fringe of late-flowering Azaleas, interspersed here and there with dark foliaged shrubs, such as are mentioned above, and then, in broken groups, masses of Irises of the earlier June-flowering varieties, and you will produce a riot of colour that no other combination can provide. Moreover, this colour madness may be full of method. There need not be an inharmonious note in the whole, because though you may splash a sunset glow broadcast upon your garden area, crimson, gold and orange, you will find among the Irises a sufficiency of cool colouring to subdue where necessary, enhance where desirable, and unite the whole in one grand natural colour harmony.

There is yet another method of using these wonderful flowers, although it is not for everyone.

realises how far progress has wafted the Iris. Another exceptional variety, both as regards stature, size of flower, colour and form, is Asia. Pale lavender, red-purple, brown, gold and bright yellow mingle in this remarkable flower. Alcazar, another violet and purple giant, is a very noticeable variety. A wonderful impression of blue is conveyed by a group of another giant, Crusader. Of a distinctly different colour is Edouard Michel, nearly approaching red. This variety has an exquisite wave in the fall that gives it a very distinctive and attractive appearance. A group of varying lilac and rose shades claims attention. It consists of a perfect gradation of colour and includes Queen of May, M. Aymard, Miriam Troost, Lancelot, Lohengrin, Phyllis Bliss, Roseway and the ever-flowering Mrs. Alan Gray. But perhaps the most wonderful colour

AMONG THE JUNE IRISES

THE Bearded Iris, a sufficiently common but not over-valued flower in gardens for many generations, is fast coming into its own. The first seriously and systematically to attempt the improvement of these Irises was M. Philip de Vilmorin, and until recent years almost everything new of any note was marketed by Messrs. Vilmorin-Andrieux et Cie, whose productions are still to the fore. No one country can, however, now claim a decided superiority for the sorts of its raising. It is safe to say that some of the English-raised varieties are as good as any in commerce; and many fine varieties have been raised in the United States, notably by Miss Sturtevant. It is a little difficult to compare the merits of American and British varieties, since some of the best American sorts hardly do themselves justice here and some of the stateliest of "Britishers" fail in the trying climate of Eastern U.S.A.

The raising of new Bearded Irises is a work calling for rare judgment and much patience. It is, however, hardly recommendable as a money-making proposition. Use what judgment one may, one is hardly likely to find more than one per thousand seedlings which is worthy of further cultivation as representing either a distinct break or a noteworthy improvement in size, habit or colouring on some existing variety. Even then, it may well turn out eventually that some other raiser has effected the same improvement, and that his flower is nearer to perfection than one's own.

Raisers have, naturally, each their own idea as to the most important point in a new Iris, which point must, of course, be accompanied by considerable merits in other directions. The Iris is before everything a stately flower, and to the writer two points of outstanding importance are stature and clear, bright (garden) colouring. A visit, the week before the Iris Show, to Messrs. Perry's "plant farm" at Enfield showed that the brothers Perry have much the same ideals. Stature their seedlings certainly have, and some of them are sure to be heard more of in the near future. Most of these possess a great deal of pallid blood.

The closely held flower and narrow, upright spike characteristic of the plicata section and to a lesser extent of the pallidas have been largely bred out in present-day strains by the introduction of neglecta and trojana blood. Considering these Irises from the standpoint of flowers for garden adornment, this represents a dubious advance. The narrow spike is certainly dignified when seen massed above a strong clump of foliage, and there should be room for it, as well as for the candelabra-like inflorescence to which the word "spike" is hardly applicable.

Such varieties as Dominion, Ma Mie and the novelty, Bruno, attract by the perfection of their flowers in colouring and shape. As garden flowers they must give place to many sorts with individually less handsome blossoms.

So much intercrossing has been effected that it is difficult—it would perhaps be more truthful to say "impossible"—to allot most new varieties to any particular section, yet the old divisions have their value as enabling one to appreciate the habit of a plant referred to the particular section.

If these Irises are to continue to increase in popularity at the rate they have done of late years, an abundance of varieties must be raised—stately in habit—and clean and yet strong in colouring, such as will, in fact, make delightful



JUNE IRISES, CATMINT AND MAPLES.

It is in the devotion of some portion of the grounds exclusively, or almost so, to the cultivation of Irises. In such a case the earlier-flowered species and varieties would have to be introduced, and also the later-flowering, grassy-leaved varieties. Time and space forbid dealing with these now, and in any case it is the June picture with which we are concerned.

The picture that rises before my eyes is that of a long valley-like depression on the outer extremities of the garden. It is perhaps, soft, or goft, wide, and bending to its slight undulations a little rill gurgles its way along at the lowest level. Fringing this tiny stream are tufts of foliage, showing where some of the later-flowering, grassy-leaved and moisture-loving Irises have yet to flower, and also some, like the Sibiricas, past their best. Away up the sides of the valley, well removed from the stream and stretching to the highest crest and beyond, are breadths of wind-stirred colour, for it is June and the Iris has come to its own. Here is the giant Lord of June, a peer indeed among its fellows, and as it moves in the wind it becomes a blue and violet haze. Next, the eye is caught by an exquisitely shaped flower of delicate colouring—white, veined lavender—called Dmity. Then there is a wonder, all red and purple and bronze and orange, with which mingles a modicum of brown—Cretonne. Away in the distance is Camelot, very tall and stately, with creamy white flowers, edged with a delicate veining and thread-like margin of pale violet. Ma Mie, another variety of similar, though somewhat smaller, hues, is also attractive; and it is by comparing these two with the older Mme. Chereau that one

note in this wonderful garden is where all the gold, bronze, copper, brown and every warm metallic hue mingle—Nibelungen, Romany, Mithras, Eldorado, Ambassadeur, Opera, Prosper Langier, Jacquesiana, many of which in the sunlight appear to have the texture, as well as the colour, of the metals they resemble.

Elsewhere are stretches of white, or white with light markings and suffusions, deep red-purples, faint creams, pure yellows and every variation of violet and purple, but to name them all would be wearisome and futile.

These, then, are some of the uses to which Irises can be put. There are others, but space forbids dealing with them. Now for a warning as to the position in which they should never be grown. Formal beds, on terraces, or in positions where prolonged colour effects are desirable, are not the places for them. A garden of geometrical design, with walks between flower beds near the house, should never be devoted exclusively to Irises. If they are planted in such beds (and it may, of course, be the only place in which they can be grown) then they should form only about one-fifth of the plants used, the remaining four-fifths being plants that will make such gardens interesting during the period when Irises are not in flower. There are a hundred things that can be planted with Irises to flower at different periods. Where the garden is of sufficient extent to allow of devoting a portion to the purpose of their cultivation without destroying the interest in the garden as a whole, it is well worth doing; but there is no compensation for the sacrifice of the whole garden year even in the joys of the wonderful June Irises. GEORGE DUNSTON.

garden pictures. Beauty of finish, excellence of form and subtlety of colouring on close inspection are all very desirable additional qualities, but these are of secondary, not primary importance.

The pallida group needs little improvement as regards size of blossom or stature. A collected form, *Iris pallida dalmatica*, has a dignity of bearing and a grandeur still unattained by any variety attributed to the *squalens* or *variegata* sections or even to the *neglectas*. Progress here must be directed to improving the colour-range. Already the original silvery lavender has become in one direction a clear lilac-rose (Susan Bliss), in another bright wine purple (Edouard Michel), and in yet another the falls are deep violet purple (Alcazar); while within these limits there are such magnificent varieties as Lord of June and the silvery-blue Drake, surely one of the most effective Bearded Irises yet in commerce. The aim, however, is to produce a race of Irises with the stature of the pallidas and *plicatas* and the colourings peculiar to the *squalens* and *variegata* sections improved and made clearer. For this reason great importance attaches to such sorts as *Iris King*, illustrated on another page and compared with *Iris variegata* as collected in the Balkans, and that exquisite novelty, *Citronella*, in which this amalgamation of qualities has to a great extent been effected. The richly if somberly tinted *Sunset*, also illustrated, also marks a notable advance. It received a well deserved award of merit at the recent *Iris Show* under the clumsy name *I. ochracea corulea*. Very free flowering and an excellent grower, its good form the picture will attest. It is, we understand, to be distributed this autumn by Messrs. G. G. Whitelegg and Co.

There is still an immense amount of work to be done before all the existing colours in Bearded

Irises are adequately displayed in handsome flowers on tall stems, but there is every reason to hope that the colour range may be very considerably extended. True blue is a colour unknown in Irises, but the lovely *I. sibirica* Perry's Blue is many shades nearer to it than any Bearded Iris yet seen. There does not seem any reason either why the lilac-rose shades should not approach more nearly still to pink on the one hand or to red on the other. It will be seen therefore that immense as is the progress which has been achieved, there still is a wide field of endeavour left open.

On Friday, June 9, there were to be seen at Messrs. Wallace's Tunbridge Wells nursery some of the most important personalities in the Iris world, including M. Mottet (representing Messrs. Vilmorin-Andrieux), Mr. Bliss, Mr. Yeld, Sir Arthur Hort, Mr. Dykes, Mr. Wister (President of the American Iris Society), Messrs. E. H. and G. N. Bunyard and, of course, Mr. R. W. Wallace himself, all intent on comparing and appraising the newest varieties—some of them as yet unnamed—both with one another and with older sorts now recognised as standard.

M. Mottet admitted in a speech he made at the luncheon that he had not realised what strides had been made with these flowers in this country. If asked to give the five best varieties to date he should, he said, name Duke of Bedford, Swazii, Cardinal, Bruno and Dominion. Dominion he considered the largest, but he thought the best of the five Swazii, because, in addition to wonderful flowers, it has height.

Mr. Wister did not agree with M. Mottet as to the five best. It was, he said, very difficult to give a best five or even a best dozen, but he thought M. Mottet had been too generous to England. *Ambassadeur* should certainly be in

the first five. The best three in Mr. Wister's opinion are *Ambassadeur*, *Prospero* and *Swazii*. He leaves *Dominion* out because, so far, it has not flourished with him. The best five varieties under English cultivation would probably not be the best in America, owing to the different climatic conditions.

Mr. Bonnewitz, another Iris enthusiast from "over the water," had been more successful with *Dominion*, so that it should be a success in the central and particularly the north-western States of the Union. Mr. Bonnewitz hails from Ohio.

All the experts are unquestionably in a king size something of a petish, but this is assuredly a quality which may be overdone. *Lord of June*, for instance, errs, if at all, upon the side of over-largeness. It is doubtful if there is a more pleasing variety in commerce than the silvery-blue pallida form, *Corida*, which is only moderate in size, but is distinguished by admirable spacing of the very pleasing flowers. This variety was very notable among Messrs.

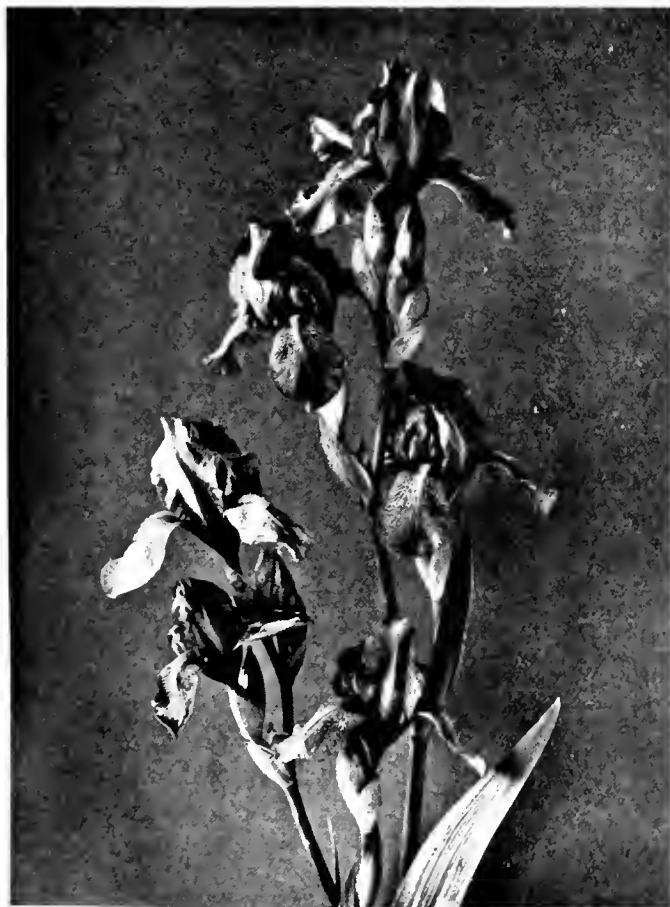


THE GLORIOUSLY FORMED IRIS DUKE OF BEDFORD.

Wallace's large collection. Speaking generally, masses of colour were for the most part made by flowers individually quite moderate in size.

The Bearded Iris achieved fame too late to be a florist's flower, so that raisers have no arbitrary standards of form to contend with. Beauty of shape and proportioning, for which substance is necessary in the standards, there should be; beyond that there is hardly any limit to the number of pleasing arrangements that may be evolved and welcomed. The strongly held falls of *Bruno* or *Dominion* certainly make a big appeal and, moreover, give an effect of size, but some of the varieties with drooping falls are very beautiful and modest-looking. A word of warning seems necessary here, however. Some of the very newest seedlings of this type have the falls very square sided and large, and it must be confessed that, however showy such varieties may be massed in the garden, their form is upon closest inspection the reverse of beautiful.

The use of lime to combat, and as a preventive of, rhizome-rot is now universal, but the known easiness of culture of these rhizomatous Irises often make planters neglectful of those details which make all the difference between complete success and comparative failure. A deeply worked but thoroughly consolidated soil should always be provided, well drained at all seasons. Burnt earth is always beneficial.



THE RE-CHRISTENED IRIS SUNSET.

THE ROTHERSIDE IRISES

CHARMING as are the Bearded Irises for garden decoration, they must give place as cut flowers to the bulbous Spanish, Dutch and English strains

flowering and exceptionally fine strain of the Spanish Iris (*I. Niphium*), introduced by Mr. C. G. Van Tubergen, junior, of Haarlem, to whose



THE "ROTHERSIDE" STRAIN OF BULBOUS IRISES.

and the related Algerian species *tingitana*. The Rotherside Bulbous Irises illustrated herewith were recently exhibited at Vincent Square by Messrs. Herbert Chapman, Limited, and were much admired.

The strain has been evolved with the idea of filling the gap which exists among bulbous flowers between the late-flowering *Narcissi* and the ever-welcome Spanish Irises, a gap already partially filled by the so-called Dutch Irises, really an early

work in several directions bulb lovers owe a debt of gratitude.

To return to our muttons however, by re-crossing these Dutch Irises with the older forms of Spanish Irises, on the one hand, and the early, but not very free Iris *tingitana* on the other, there has been evolved this strain of Rotherside *Niphium* Irises which mark another step forward and which should be invaluable not only for cut flower, but for culture in pots.

THE ROCK ROSES IN NORTH WALES

If not, generally speaking, entirely hardy, the Cistuses are too charming to be omitted from any but the bleakest gardens.

THE *Cistuses* comprise one of the most important groups of flowering plants with which our gardens are adorned, and though none of them is suitable for bleak climates, most can be grown to perfection where the winters are not too severe and the soil well drained. All are sun-worshippers, most persistent bloomers and so easily raised from cuttings (which come to a flowering size in a very short time) that in districts where the winters are sometimes keen enough to injure them, a stock can always be held in reserve. They probably all like lime, though this is not essential.

The most familiar and one of the hardiest is *C. cyprius*, and a well grown bush of this old kind, bearing legions of its large paper-white, poppy-like flowers with a deep maroon blotch at the base of each petal, is a cheerful and lovely object in the later days of spring. Though often called the Gum *Cistus*, this name rightly belongs

to *C. ladaniferus*, which bears a close resemblance to the above, but may be easily distinguished from it by the flowers. In *ladaniferus* these are borne singly at the leaf axils, whereas those of *cyprius* are produced in clusters. In colour, size (often 4ins. across) and form these flowers are much alike, but those of *ladaniferus* often have rather more red in the blotch and in many forms the leafage of the latter is much narrower than in *cyprius*. There is a fine variety of *C. ladaniferus* known as *immaculatus*, whose flowers have no blotch, these being pure white and usually larger than in the type. All of these will make large bushes up to 6ft. high, but in some places they may attain twice that stature with a stem 4ins. to 6ins. in diameter. The leaves are covered at most seasons with a gummy secretion which is pleasantly aromatic.

Though some discerning nurserymen list them both, I can see no difference between *C. lusitanicus* and *C. Loreti*. This is a delightful little shrub,

smaller, semi-prostrate and more compact than the foregoing, and whose white flowers, which often remain on the bush until late afternoon, may be recognised by their bright crimson blotch. The leaves are slightly viscous, and this variety is in our experience rather more susceptible to frost than any previously mentioned. Albeit, *C. lusitanicus* is such a charming kind that it is well worth a trial anywhere. It is said to be a *ladaniferus* × *mons-peliensis* hybrid.

We now come to the much bigger, coarser and more robust *C. laurifolius*, which is hardiest of all. This species makes a wide, spreading shrub up to 8ft. or more in height; the leaves are a greyish green, and the pure white flowers, with a suggestion of yellow at the base, are lavishly produced in bold clusters. A fine plant for an open spot in the woodland or shrubbery and one that is more easily raised from seed than cuttings. Another good woodland *Cistus*—for it is one of the very few which will do with but little sun—is *C. obtusifolius*. This makes a shapely little shrub of dark green, glossy leaves, which in early summer are almost hidden by the yellow-centred, white flowers, these being about 2ins. across. *C. obtusifolius* is one of the easiest, and in habit and appearance comes near to *C. corbariensis*, which has slightly smaller flowers of the same type, borne in terminal clusters and preceded by reddish tinted buds.

C. salvifolius is another white-flowered species that runs close to the last mentioned. Plants sent out under this name are apt to vary considerably in form, some having the true Sage-green leaf, others more nearly approaching the foliage of *obtusifolius*. This variability, a characteristic common to the species in its native habitat on the Mediterranean, has led to a multiplication of varieties which is confusing. I have found *salvifolius* as hardy and easy as *obtusifolius* or *corbariensis*, which is to say that it can stand 15° to 20° of frost in dry soil, and it is a plant that will grow to about 3ft. and "carry on" for years, taking care of itself.

In *C. mons-peliensis* we have another species that varies considerably. In general it may be described as a rather dense little bush of some 3ft. with bright green, rather narrow leaves and white flowers about 1in. across with a yellow blotch. It has a twin sister in *C. florentinus*, with narrower leaves and which is slightly smaller in all its parts. Both of these are admirable for the rock garden or the top of a dry wall, and they are always most redundant bloomers. They have proved quite hardy here under most trying circumstances. To this indispensable couple I may add *C. rosmarinifolius* (often classed with *Helianthemum*), for it is decidedly one of the best of the dwarf white. As the name suggests, the foliage is narrow, much like that of *Rosemary*, and it makes a neat, compact bush about 2ft. high, spreading, it may be, to double that distance in diameter. *C. rosmarinifolius* is always the first to flower with us, and from April onwards for many weeks it maintains a most amazing succession of pure white flowers about the size of a shilling. This is also as hardy as any *Helianthemum*.

Among the red-flowered *Cistuses* one of the best, giving hardiness, habit and colour first consideration, is *C. Gauntletti*. This is of garden origin and much after the style of *C. crispus*, but we have found it more robust, and while the foliage is hardly as grey and velvety as the latter's, the 2in. flowers are quite as fine a colour, being a dazzling rosy-crimson. *C. Gauntletti* perhaps more closely approaches *crispus* *Sunset*, but again it has even brighter flowers and a tougher constitution. Of their type the three just mentioned are, I believe, the best for the average climate; but the more tender *C. vaginatus*, said to come

from Madeira, has even larger flowers of a brilliant rose-carmine, centred with a bold tuft of golden-yellow stamens. The leaves of *C. vaginatus* are distinct, being peculiarly long-stemmed, large, willow-like and hairy.

C. villosus (*incanus*) is another Mediterranean with flowers of a lively pink, and *C. creticus* appears to be a form of the same thing with blossoms of a deeper tint. Hardly distinguishable in some forms is another of this set, *C. undulatus*, having wavy-margined leaves. All are fairly hardy in all but cold climates. Like most of these red-flowered *Cistus*s, however, *villosus* and its forms do not seem to be long-lived, and a stock of cuttings should always be kept in hand. This also applies to *C. albidus*, another grey-leaved kind from Southern Europe, whose bright rose-coloured flowers have an admirable background in the white tomentum which covers the leaves. All these have an upright habit and attain a height of 2ft. to 4ft. Needless to say, they must all have sun and a hot, dry soil.

C. purpureus stands in a somewhat isolated position among its kind, for while its foliage is greener than that of most of the red-flowered kinds, its enormous crimson-purple blooms have a deep blood-red blotch at the base of each petal. Though not so hardy as some, *C. purpureus* is such a distinct, beautiful and prolific species that no one who attempts *Cistus*s at all can afford to omit it from his collection. It is well, however, always to see the plants in flower before purchasing, for even in *purpureus* there are great differences in the colour and size of the blooms.

Strictly speaking, I believe, there are no yellow *Cistus*s, but I must make custom my excuse for including in my list a few of those yellows popularly classed with the genus, but sometimes listed as *Helianthemum*s. An easy first among these is the very lovely *C. formosus*, excellent for a wall or other dry place, with a loose, trailing habit, small grey leaves and wonderful golden yellow flowers which open flat as if the better to show the fine dark chocolate ring at their base. Then we have *C. f. unicolor*, which closely resembles the type, save that the blossoms are pure yellow throughout. Next to these in order of merit I would place *C. halimifolius* and *C. algarvensis*,

whose flowers might be described as miniatures of *C. formosus*; but these two are of denser growth than the last named, and the blooms are borne at the ends of long stems rising clear of the foliage. *C. halimifolius* is the larger and more robust of the two and has stood some severe winters here without injury. These are no less

prolific in their blossoming than others of their tribe and quite easy in any free soil and sunny aspect. With a mere mention of the dainty little *C. alyssoides*, with its tiny yellow saucers and orange spots, I must conclude, lest I become wholly engulfed by the *Helianthemum* clan. A. T. JOHNSON.

BEDDING OUT

BY GERTRUDE JEKYL, V.M.H.

WE hold to the old term for putting out the summer flowers, although our gardens are no longer dependent on the tender plants alone. We use them now in quite different and more sensible ways, whether as companions and auxiliaries to the hardy perennials or in spaces by themselves. In what we may now call the bad old days the object was to make a bright show for a scant three months in the more important parts of the pleasure garden, leaving them bare for the rest of the year, or, at best, planted in autumn more or less unsatisfactorily with spring blooming flowers. I have no desire to depreciate a bedded-out garden of the older kind when it exactly fits a need, and especially when it is done with the spirit of enlightenment of our present taste and knowledge. Many a great house has an important parterre in close connexion with the design of the building, and the flowers with which it is to be filled are only wanted for display after the London season. But, in this case, by means of the better ways that we have come to know of late years of arranging masses of colour, and also by the much wider range of material provided by our growers, the careful designer has more freedom of hand and has been enabled to redeem the parterre from what it too often was—a mere garish display—to a delightful presentment of colour beauty.

Even without having a parterre of formal design there is plenty of opportunity for a good use of the tender plants if it is decided to have them in a place to themselves. In my own case

there is a three-cornered piece of ground where we try for good effects. It has a kind of axial backbone about 4ft. wide, raised by means of a couple of courses of local stone and filled with permanent plants of solid aspect—*Yucca*, *Phormium*, *Crinum* and the great *Euphorbia Wulfenii*. The rest of the space is chiefly for Dahlias, Cannas, Gladioli, Pentstemons, Antirrhinums and Geraniums. A high wall on one side is made to play its part in one of the chief effects, for here there is a long stretch of brilliant red, and it is tempered and harmonised and enhanced by an intermixture of ruddy foliage richly dark. On the wall a *Prunus Pissardi* is stretched out to cover some square yards, toning delightfully with a tall old Dahlia of deepest claret colour; then come strong red Dahlias grouped with more bushes of *Prunus Pissardi* and *Ricinus Gibsoni*; then dark-foliaged Cannas and tall Snapdragons with bloom of deepest red velvet and dark leaves; then lower scarlet Dahlias leading to a front mass of scarlet Geranium Paul Crampel. A streak of Irisine runs behind these, and among the Geraniums is a French variety of *Love-lies-bleeding*; not the usual large magenta one, but the same plant with a much lower habit and of a dusky red colour both of leaf and bloom that makes a dimly glowing ground for the more brilliant flowers.

How I wish that such a thing existed as a Dahlia with reddish foliage something like that of the dark Snapdragon or the red-leaved scarlet Lobelia, for the green of the Dahlia leaves is in itself uninteresting and is obtrusive in my colour arrangement.

After the harmony of strong reds the colour passes through paler tints to a region of white and yellow. Here at the back are Dahlias, the tall single Victoria with the fresh-looking green of striped Maize; then some tall white and pale yellow Snapdragons leading to white pompon Dahlias and the pretty kind, *Lady Primrose*, a plant of weak habit that easily allows it to be trained almost flat on the ground; also Cannas, pale of leaf and pure yellow of bloom, and double white Marguerite; and near the path a mixture that is always satisfactory. It is a groundwork of the variegated form of *Mentha rotundifolia* intergrouped with *Calceolaria amplexicaulis*, the *Calceolaria* rather thicker towards the back. Quite to the front are little patches and single plants of the formerly much misused Golden Feather Pyrethrum. Some of this is allowed to flower, for its white bloom, yellow centred, helps the picture; in other plants the flower is nipped out the better to show the yellow foliage. The Mint is tipped three or four times in the season so that it grows bushy and does not flower.

In the perennial flower borders the tender plants combine with the permanent ones and greatly help to lark up and carry on the blooming season. At one end of a long border, in a region of blue, white and pale yellow, there is a general hilling of white and yellow Snapdragons and the primrose-coloured African Marigold, while the front spaces are completed with the pretty Cape



A BEAUTIFUL ROCK ROSE, THE PERHAPS MISCALLED CISTUS PURPUREUS.

Daisy, *Agatheæ cœlestis* and the dwarf *Lobelia Cobalt Blue*. Then, where in the middle of the border's length the colouring is of orange and red, the main filling is of the splendid orange African Marigold with the fiery Snapdragon Orange King, Scarlet *Salvia*, and the rich brown

and orange dwarf French Marigold. At the farther end, where the colour is purple, white and pink, with grey foliage, there is tall and dwarf *Ageratum*, tall white Snapdragons, and pink Ivy Geraniums here and there at the border's edge.

JUNE ROSES AND DRY WEATHER

BY the term "June Roses" I refer to the real Roses of June, the earliest of their race to flower, most of them being of the single or wild type. And I am constrained to write of them now with the object of drawing attention to the extraordinary manner in which they have resisted the May—June drought of this year, following the still more severe trials of last summer. In so doing I hope, incidentally, to express my humble gratitude for these adorable things and for the brave and cheerful faces they have maintained during a most trying ordeal. Also, one may express the wish, supposing there are any readers who think they cannot grow Roses because they have not got the right kind of soil and sufficient moisture, that they will, on scanning these lines, realise the fact that it does not matter how dry or poor their soil may be, Roses will prosper in it if they select the right kinds.

Among the first blooms to open here are those of the delightful *R. Hugonis*, which is content with the poorest of stony soil, and whose gracefully hung branches have been wreathed with fragrant sulphur yellow flowers for several weeks.

That fine old single, one of the best of its kind ever introduced, Paul's *Carmine Pillar*, has been enveloping an old stump with a gorgeous array of its brilliant colour throughout the early part of the month, and though its roots are in a sharp slope of thin soil so dry that large bushes of double *Corse* close by have perished of drought, it could hardly have done better. In an equally torrid position the splendid Austrian Copper, in fiery orange-chrome with a pure gold reverse, has once again proved itself to be both the sun-worshipper and drought-resister that its red-hot complexion suggests. Comparisons may be particularly odious when speaking of such Roses as these, for they are incomparable; but there is a splendour so glowing and wholehearted about a good form of Austrian Copper which is transcendently beautiful.

Austrian Copper has, however, anything but an aggressive colour. We have it in conjunction with some of the Irish singles and such Briars as

Lady Penzance (which owes its warm colouring to the Eastern beauty), *Persian Yellow*, the Scotch Rose and others, and the colour blend is a most



A FINE FORM OF THE SCOTCH ROSE, *ROSA SPINOSISSIMA*

harmonious one. All these just mentioned are also happy enough on our loose, shaly banks, and are ardent sun-lovers, though the *Persian* has a way of turning a little weary from over-production in prolonged dry weather. Near to these are also some of the *rigosas*, none of which seems other than delighted with the heat and the drought. Few Roses are so richly fragrant as these, and their handsome foliage is refreshing to behold when less hearty plants are wilting under an unsparring sun.

R. alpina is a choice species for a fairly open spot in the woodland or wild garden, and its spineless stems will bear their soft emerald foliage and bright crimson flowers throughout the most trying weather without complaint. Not less indifferent to dryness is *R. spinosissima*, the sweet little Burnet Rose, one which in its best form is a great improvement upon its wild representatives. For associating with Heaths and other lowly things which enjoy full exposure a group of

Burnet Roses, their arching branches of tiny bronzy-green leaves wreathed from base to tip with large creamy white blossoms, can be very delightful.

Where one can afford to do so, our native Sweet Briar (*R. rubiginosa*) should always be given a place, but some forms are better in colour than others. Another indigenous species well worthy of garden quarters is *R. villosa*, for the brilliance of its rose-crimson flowers; and, under some circumstances, one might venture to include the large and elegant *R. arvensis* which gave us the Ayrshires. There are some really fine forms of the common Dog Rose, but this is unsuitable for most places, and do we not already possess its admirable daughter, *Una*, perhaps the most enchanting of all trailing singles in white? These natives are all drought-proof and easy anywhere if grown on their own roots, and the dwarfier kinds can be put to serviceable use in providing thin shelter for other things on sun-beaten banks.

Somewhat after the same model as *Una* is *Jersey Beauty*, a large single, opening early in a cool yellow and going off white. This is a Rose with a constitution equal to that of *Carmine Pillar*, an evergreen foliage of rare beauty and a temper that will put up with anything. *R. berberifolia Hardyi*, with *Cistus*-like flowers, rich yellow with a crimson blotch, is another that loves a hot, dry place; but, unlike all others mentioned here, it is apt to get fidgety in winter and perish. It has just disappeared with us in this way; but a very lovely form of the same thing, which is stouter, bushier and hardly less pretty, which bears the name of *Hebe's Lip*, is quite content and happy in soil of a starvation character. This has a single flower, creamy-white with a well defined Picotee margin of blood-red to each petal.

The unique and very splendid *Rosa Moyesii* is also an early bloomer and one that, so far, has not made any serious objection to a thin, hot soil; but how long it will be able to carry on and give of its best in such conditions has yet to be proved. Towards the later part of last month, yet before the great majority of Roses are in flower, *Naiad* opens its large goblets of ivory-blush in an open space in the woodland where, despite a rather spare habit, it makes a pleasing feature. At the foot of an adjacent Heather bank we have a little collection of other and very fragrant kinds, most of which possess more than a suggestion of damask "blood." *Hebe's Lip* is among these and so is the most sumptuous *Rosa Mundi*, *Village Maid* and the once familiar *York and Lancaster* with its quaint stripes of white and pink and delicious fragrance. A few semi-double and unnamed strangers from Eastern Europe also claim the hospitality of this little group, and here, too, is the quite dwarf and bushy *William III*, a miniature Scotch Rose with crimson blooms, and the ruby-stemmed *R. nitida*, the autumn foliage of which is always such a joy.

None of these Roses, let it be said in conclusion, ever get any of that attention usually bestowed upon the more ornate inhabitants of the orthodox rosery. They were put into our shaly soil with a little leaf-mould or vegetable compost to help them over their first summer, after which they must practically tend for themselves as the wild Roses of hedgerows do. That they have succeeded beyond one's expectations I have already said, and so long as we have them "the summer month that brings the Rose" will always be something more than a tradition. It never would have become a tradition had the peculiar charm of wild Roses and those of generations gone not been so largely overlooked. The heps of many of these single Roses are delightful. N. W.

CORRESPONDENCE

COLOUR EFFECT IN THE FLOWER GARDEN.

SOME clumps of *Pæonia officinalis*, the old early *Pæony*, that had long shown signs of deterioration, were necessarily neglected during the years of the war. They were in a very poor state when they were taken up two years ago, but a special border was prepared for them—they are great feeders—and they were carefully planted. A good manurial mulch and occasional watering kept them safe during last year's drought and helped to give them nourishment. This spring it was a pleasure to see their glad response to good treatment. Early in April the thick red snouts pushed up with an assurance of strong bloom, a promise well fulfilled by the end of May. They are in the three usual colourings of strong crimson red, deep rose and palest pink, turning to a dull white. These three different forms give quite enough variety of colouring to the little special border, and the quality of colour is so fresh and gay that there is no need for any other bright flowers to be near. Their companions are, therefore, all white, and nothing could suit them better. Just behind them are some little bushes of *Deutzia gracilis* and *Olearia stellulata*, and beyond that white Broom. Here and there among them are plants of the large white Columbine, closely followed by white Foxglove. The whole gives a pleasant picture of simple, joyous flower effect, with a feeling of being unlaboured and almost spontaneous.—G. J.

ALONSOA MUTISII.

I WOULD be greatly obliged if anyone who has grown this delightful half-hardy annual would tell me what colour it is. Is it a pale flesh-pink or a soft rose-pink? I fancy in an ordinary way it is a pale flesh-pink, because, when I commenced to grow *Mutisii* two years ago all the plants save one were more or less of this shade, and it was only this one that had soft rose flowers. I am trying to establish a strain of this deeper colour. Last summer, to my surprise, a small proportion of plants had red flowers, which seemed exactly like those of the well known *Warszewiczii*. Whenever I write this hard name, *Alonsoa Warszewiczii*, I must say I do sympathise with the old lady in his village who told Mr. Tom Aldersey that of all the plants he had given her, she liked "Alfonso Whisky-and-Soda" the best. Perhaps it will be useful and seasonable to say that this plant with this break-jaw name does excellently in pots and might be used as a change from *Schizanthuses* and *Clarkias* for greenhouse decoration. Perhaps some will say, *Schizanthus* I know, and *Clarkia* I know, but what are you like? The *Alonsoa* will answer: "I am a very graceful plant with small toothed deep green leaves and bright red flowers, a wee bit like a *Schizanthus*. I bear pinching when young, and if this attention is vouchsafed to me I become nice and bushy. I cannot produce the same solid masses of colour that my rivals do, but all the same my more subdued show is very graceful and in the opinion of many very charming, and a welcome change from *Clarkias* and *Schizanthuses*."—MÆLOR.

ROSE MARECHAL NIEL.

HOW rarely one sees even poor blooms of this grand Rose, and still more rarely really good ones. From my early days, when I first enjoyed the delicious fragrance of the blooms of the *Marechal Niel* and the full-centred specimens in Cheshire and Lancashire, I have been very fond of the variety and striven to

grow plants, sometimes with success and sometimes without. But I would never think of giving up efforts. The flowers are worth trying for, and I am surprised that more Rose-lovers do not grow this variety.

When first I came to Hampshire I found a specimen growing on a wall facing west and otherwise sheltered, too, but the buds only partly developed and were almost green in colour, not much trace of that rich golden yellow one so much appreciated. About the same time I was on a visit to Cheshire and was told that there was a splendid plant growing on a cottage wall in the district. I did not rest till I had inspected the plant. It was, indeed, a very fine, healthy specimen bearing leaves of large size and very green in colour with blooms to correspond; the soil was a heavy loam. Outside, of course, this Rose is always very uncertain in its growth and flowering qualities. Under glass one can to a great extent control the growth but not the canker. Judging from my own experience, I have found

was not my own method but that of another cultivator.

With reference to canker, there is one instance, to me exceptional, that of a plant quite filling a span-roofed greenhouse about 20ft. long and 12ft. wide. It belongs to a farmer in the North Midlands. The canker had formed a lump on the stem, where budded, about the size of a very large Coconut 2ft. or so from the ground. The stock measured about 1½ ins., through, the Rose stem above the canker about ¾ ins. The plant was very healthy, and the owner said it had never failed to bear blooms profusely for the past twenty years. The soil is a medium heavy loam.—GEORGE GARNER.

THE REGELIO-CYCLUS IRISES.

AS there is so much controversy about these remarkable and beautiful flowers, the enclosed picture showing a breadth of them in the Zwamburg Nursery of Mr. C. G. Van Tubergen, jun., near Haarlem, Holland, may be of interest. Mr. Van Tubergen shares with the late Sir Michael Foster the honour of originating this race of hybrids, which, if hardly such easy garden plants



REGELIO-CYCLUS IRISES GROWING IN THE OPEN GROUND AT VAN TUBERGEN'S NURSERY.

canker appear generally about seven years after the Roses are planted, whether in pots or borders. My best results have followed planting in an outside border and training the branches on a back wall of a greenhouse, the exposed portion of the stem being wrapped in haybands during the winter months.

Another plan, followed with success for a number of years, was to propagate young shoots in spring in bottom-heat and to grow on the resultant plants in pots—never larger than 6 in. ones, and to force them in due season, discarding the plants before canker showed and replacing them with young stock, the latter being raised in small numbers every spring.

I believe the finest blooms of *Marechal Niel* were borne on plants trained up the back wall of a lean-to vinery and treated as cordons about 1ft. apart, every other plant being cut down almost to the ground in alternate years, the annual growth being from 7ft. to 10ft. This

as the Bearded *germanicas* and *pallidas* or the forms of *Iris sibirica*, are, compared with the pure *Oncocyclus* forms, quite readily cultivated. A warm soil, well enriched—but not with fresh manure—and protection from winter wet are the main desiderata. H. H.

SOME AFTER-EFFECTS OF THE DROUGHT.

IT is very interesting to note the after-effects of the long drought of 1921 on many plants, trees and shrubs. Some of them I have never seen with such a wealth of bloom as this year. The *Daffodils* were a glorious sight, partly due, of course, to the lateness of the season causing both early and late varieties to bloom together; but apart from this many rather crowded clumps of bulbs which have for a few years flowered very poorly gave a quite good show, and masses of bulbs under trees and in grass, which were more

thoroughly dried than those in borders could not possibly have been better. Tulips, too, were grand, and many offsets planted in the spare border are flowering. A good-sized patch of *Gentiana acaulis* (*Gentianella*) in the garden here which has not been disturbed for several years was crowded with blossoms. So easy is the cultivation of this when compared with nearly all other *Gentians* worth growing that one almost apologises for making any note on it. It withstands disturbance almost with impunity, and in proof of this I may say that some here which had become very crowded were thinned out last spring to extend the group, and in spite of the long drought the casualties among the clumps moved were very few, though, as was to be expected, those which survived the ordeal gave but few flowers this year. The soil in which they grow is cool, without stagnant water in winter. I have found they benefit by a top-dressing of well decayed leaf-mould and cow manure in spring and coarse river sand in autumn. This, and weeding, is about all the attention required or given.

In the shrubbery the Crabs and Brooms have bloomed as never before. From a distance the Brooms appeared to be a solid mass of colour and broke down under the weight of blossom. *Loniceras*, too, are much better than usual; double *Cherries* a sight to remember.

It would be interesting to know how these things have done on lighter and shallower soils, where the effects of the long drought would be more severely felt; also on stiff clays, which crack badly and so damage the roots.

To wander from the shrubbery to the kitchen garden and orchard, one feels compelled to ask why, while the Crabs seem to have eclipsed all former efforts, the Apples were so sparing with blossom? They were very patchy and disappointing; a very few had a good show; some were very poor, and many had none worth mentioning. *Quinces* flowered splendidly, and so did *Pears*, *Plums* and *Cherries*; but it is to be feared the crops of some of these will be very light, especially the self-sterile varieties, as the honey bees and other insects were unable to be abroad owing to the bad state of the weather while the trees were in bloom.—H. C. Wood, *Lingfield*.

THE HIPPEASTRUMS.

I HAVE read with interest the article on *Hippeastrums* in *THE GARDEN* for June 3. I have found raising seedlings a delightful experience. Some years ago I purchased a collection of ten bulbs from a large firm, who were selling off, and stated the collection was a prize winner. Among them was one of great beauty—very dark crimson—good habit, with a wonderful sheen. I happened to have another very fine bulb of a different habit. I crossed these and waited with great hopes until they flowered 2½ years after sowing seed. I hoped I might get out of fifty plants two or three good ones, but I was amazed to find that with hardly an exception, I had improved on the parents. Practically all the bulbs flowered the same spring. I have since raised another batch with similar results and had a superb display this spring. I have found the culture very simple, except that I have been troubled with a disease that colours the leaves and roots with a reddish tinge, and in some cases caused the flower stems to burst. The method of culture in your article this week is practically the same as that I have followed, but there are one or two hints that I am glad to know of.

I find few people are aware of the glory of a group of these lovely flowers, nor of the pleasure of raising them from seed. I imagine the difficulty would be to obtain really first class seed, and had

I not my own I should not know where to get it.—G. HUNNYBUN.

[Seeds of *Hippeastrum* may be obtained from leading seedsmen at home and abroad.—ED.]

THE ADORNMENT OF CREEPER-ROOT FILLED BORDERS.

MANY houses, and especially old ones, have their walls well furnished with climbers, and the difficulty of finding suitable plants to furnish the borders is often great. Generally one sees the attempt made with the ordinary bedding plants, and very rarely is it wholly satisfactory. Much labour is needed in improving and watering the soil to enable the plants to grow, and this naturally encourages the climbers to form a still greater mass of fibrous roots near the surface and so increases the difficulty in the future. We have one such border here on the west side of the house in which are growing old-established plants of *Pyrus japonica*, *Rhus Toxicodendron*, *Magnolia grandiflora*, *Wistarias*, *Vitis purpurea* and a *Rose*. About eight years ago a part of the



MASSSES OF *NEPETA MUSSINI* IN A CREEPER-ROOT FILLED BORDER.

border was planted with *Nepeta Mussini*, and the result was so encouraging that the whole was filled with it and gives a very charming effect with the minimum of attention. The colour of both flower and foliage harmonise well with the old stone of which the house is built. I enclose a photograph which shows about two-thirds of the border, and many of the plants are eight years old. It is one of the easiest plants to propagate. The young growths may be pulled out in early spring when gins, or so in length and inserted in pots or pans of sandy soil and placed in a greenhouse or frame. They root quickly and may be planted out rather closely to give a good effect the first season and thinned out for the second year. The spare plants may be used elsewhere. Old plants may be divided, but the cuttings, I think, give better results. When in bloom it is a great favourite with the honey bees, which work on it throughout the day, filling the air with their cheerful hum.—H. W.

HAILSTORM RELIEF FUND.

WHILE sympathising very deeply indeed with the Tunbridge Wells growers in the losses sustained in the recent severe storm, one cannot

help feeling that there should have been no necessity for a public appeal to relieve them of distress in times which are more or less distressful for everybody. The Hailstorm Insurance Corporation has been established at least twenty-five years, and the knowledge that the premiums it asks are extremely low, and that its payments for damage done are instant and generous, should have reached the growers of Tunbridge Wells, as it has the growers of other districts, years ago. They could then have safeguarded themselves against loss and an appeal to public generosity. Or it may be that they are in parallel case with a friend of mine who allowed his hailstorm insurance to lapse last year, after paying for a long period, because he had suffered no loss. He now bemoans his false economy, but admits his fault.—W. H. L.

BRITISH-GROWN GREENHOUSE BULBS.

ONE cannot put one of those ample title pages of a past age as the heading of a paragraph in a modern gardening paper. All the same I should like to have done so in order to explain in a short, general sort of way which are the particular bulbs

that are in my mind; and further, to point out the satisfactory way in which they may be grown under glass in Britain. As I anticipate the cool greenhouse will come more and more to the front as an adjunct of twentieth-century gardens, it is well to remind ourselves that there are a good many bulbs which flower in the earlier half of the year that can be successfully grown in such structures from year to year, so that after the initial outlay we can carry on without spending any more money—a not unimportant consideration in these days of more or less entoreed economy. The families that are in my mind are *Freesias*, *Lachenalias*, *Ixias*, *Sparaxises*, *Brodieas* and *Babianas*. All the ordinary greenhouse varieties of these can be grown successfully at home, as I have proved in my own garden. The usual and, I must own, the greatest difficulty is the aftercare of the plants when the flowers are over. They need feeding and watering until the foliage begins to die down. They then require a thorough baking in the sun and to be kept perfectly dry until planting time comes round again. All this means pots of leafage with no blooms.

Now, bloomless pots are not wanted either before or after their period of blooming, if the greenhouse

is to be a blaze of colour. Here is the difficulty, and where there is but one house it is a very real one. Either the idea of a big display must be scrapped, or very skillful use must be made of cold frames. If a small house can be given up to the growing on and the ripening off of the bulbs, all difficulty disappears. Or if the one house need not be kept always gay, but can be used in a more utilitarian way, the difficulty is very much minimised, and with a good cold frame is practically

nil. I have written this rather bald statement of facts to rub in the principle that forewarned is forearmed. Provision must be made for every period of the growth of the bulbs. What happens to them up to and after their flowering is very important, but it is no use attempting to have home-grown bulbs if we are not able to provide adequately for their requirements. All the genera mentioned above provide many varieties most suitable for a cool greenhouse.—JOSEPH JACOB.

more receptive condition than when over-moist conditions prevail. When a sufficient number of fruits are set and swelling becomes visible, a thorough watering with tepid water should be given, closing the frame as early as possible after syringing the foliage. As the fruits increase in size a suitable stimulant may be given the plants, always being careful to see that the water used is tepid.

The Flower Garden.

Shrubs.—Flowering shrubs, such as Deutzias, Berberises and Lilacs, may be judiciously pruned immediately they pass out of flower. This induces a vigorous growth which will ripened will materially add to next season's display of flower.

Wallflowers.—Sow seed now so as to secure nice bushy specimens for transferring to the beds in the flower garden by the end of October. Grow in fairly firm, not overrich soil, as over-feeding tends towards that softness of growth which is so easily damaged by the vagaries of our winter weather.

JAMES McGRAN

(Gardener to Sir Henry H. Hoildsworth, Bart.),
Coodham, Kilmarnock.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Asparagus.—Just when to cease cutting the "grass" for daily usage must be determined to some extent by the earliness or lateness of the season, and also in many cases the requirements of the establishment must be taken into account; but although no notice need be taken of advice which stipulates that the cutting must cease by a certain date, it is wrong to continue the cutting later than the latter part of this month, or sufficient time will not be given the plants to grow and properly develop a good supply of haulm by the end of summer. See that the beds are thoroughly clear of weeds, and if such can be spared a dressing of well rotted manure or a suitable fertiliser will greatly assist in the building up of the plants for another season. The stronger growths should be staked, or a few pea-sticks of suitable length will answer.

Celery.—The plants to form the main supply of roots may now be placed in the trenches as they become ready. The bed or frames where the young plants are growing should be well watered previous to lifting so that as good a ball of soil as possible may be lifted with the plants. The distance allowed between each plant should be from 6 ins. to 12 ins., and as planting proceeds a good watering should again be given the plants. Celery delights in a good spraying over each evening after hot days, and an occasional dusting of soot is beneficial and helps to ward off fly. Celery plants which were planted in the trenches some time ago should also have liberal supplies of water if it can possibly be managed.

Parsley.—A sufficient supply of this should be sown now to yield late autumn supplies and also to provide plants for pricking out in favoured positions for winter use. As Parsley is sometimes a trifle fickle in growth, it is a good plan to sow in two positions and endeavour always to have an ample supply of this indispensable kitchen commodity on hand.

The Flower Garden.

Early Flowering Shrubs will need attention as they pass out of flower, for with many of them what pruning and thinning out of shoots is necessary may be done then. In dealing with such plants as the flowering Brooms, for instance, it is not always necessary or even advisable to adhere to any fixed method of pruning, but make due allowance for position and surroundings. It is by no means rare to come across in some small gardens in Surrey many fine plants which have never had a pruning since they were planted and are yet annual objects of much grace and beauty.

Delphiniums which are expected to yield a second crop of spikes must have the early ones removed as soon as ever they are on the wane, so that the whole of the plants' energies may be concentrated in the new growths pushing from the base. This is not a practice to be recommended as an annual one, and when it is done see that the plants are well supplied with water during dry spells and a liberal mulch given also, or exhaustion will soon set in.

Fruit Under Glass.

Scalding Grapes.—The two varieties which are generally the most troublesome through scalding or scorching of the berries are Muscat of Alexandria and Lady Downe's Seedling, and the time when the evil usually begins is when the berries are about half grown. The best way to guard against the scalding is carefully to avoid a too sudden rising of the temperature, particularly when the atmosphere is heavily charged with moisture. In other words, air the houses freely in advance of a rising thermometer, not waiting until the maximum has been reached before airing liberally.

The hot-water pipes should be kept always luke-warm should this trouble of scalding commence, for in this means a more buoyant atmosphere is maintained. H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Mushrooms.—Nice specimens of these are appreciated at any season, therefore in establishments where manure is available it should be collected and by repeated turnings put in condition for forming beds which will ensure supplies of Mushrooms during September and October. The bed should be trodden firmly, and when the temperature is about 80° spawning should be attended to. Cover over with a layer of fine soil, and as an efficient check to evaporation a covering of straw should be given.

Broccoli.—Attend to the planting of spring and early summer varieties. Owing to the severity of the climatic conditions in the North it is futile to plant winter sorts, more especially where cold, unkindly soils prevail.

Late Potatoes should be well worked between the rows and a dusting of approved Potato manure or soot given before the final earth up. In northern areas Potatoes are promising well, and if given generous cultivation should provide a bounteous yield.

Seakale.—Plantations of Seakale should be encouraged with a light surface dressing of sulphate of ammonia, stirring it lightly in with a cultivator or hoe.

Broad Beans.—Pinch the tops of plants that are well set with pods, as this materially assists in their development.

Tomatoes.—Continue to assist Tomatoes that are swelling their fruits by giving regular waterings of liquid manure. Where the plants are at close quarters the points of the leaves may be pinched off so that more light and air may be allowed to reach the trusses. Opinions differ regarding defoliating Tomato plants, but if the work is not carried to excess the fruits colour more quickly and richly. But if too severely dealt with root action is checked and the crop suffers accordingly.

Parsley.—Sow seed now for winter supplies. Choose a sheltered border for this sowing so that pickings from the open may be as prolonged as possible. When thinning the rows a quantity of the seedlings should be transplanted into a cold frame for use during wintry weather.

Saladings.—Nice crisp saladings are always appreciated, so fortnightly sowings of Radishes and Mustard and Cress should be made. Regular sowings of both Cos and Cabbage Lettuce should also receive attention.

The Hardy Fruit Garden.

General Work.—Use the hoe freely among Gooseberry and Currant bushes so that the ground may be clean and porous before the necessity for netting the crop arrives. Keep a watchful eye on young bushes for attacks of red spider or caterpillar and syringe with Quassia extract on their appearance. Thin fruits of choice Apples and Plums on walls and disbud where necessary.

Fruit Under Glass.

Melons in Frames.—With plenty of sun-heat plants in frames will be making rapid growth and producing abundant fruiting laterals. Stop these simultaneously at the second or third leaf beyond where the fruit is set. To assist setting ventilation should have attention early on fine days so that all moisture may be dispelled and the flowers and foliage be in a dry condition before setting takes place. The pollen of the male blooms will then be more potent and the organs of the female flower will likewise be in a

GREENHOUSE AND CONSERVATORY.

Humea elegans.—A small sowing should be made this month, standing the seed-pots in a cool greenhouse, where they should be shaded until the seeds germinate. When large enough to handle prick off singly into thumb pots, afterwards potting them on as they require it. Many cultivators fail with this plant, this probably due in most cases to careless watering, as care is required in this respect at all stages of the plant's life. The sowing for the main batch of plants should be made at the beginning of August. It is not generally known that this plant causes a kind of rash or eczema when handled by some individuals. In this respect it resembles *Primula obconica*.

Malmaison Carnations.—Strong, healthy plants should be selected for layering as they pass out of flower. Layering is best done in cold frames, using a light compost with plenty of good leaf-soil added. The plants should be well watered before they are turned out of their pots. They should be firmly planted, and if the shoots are at all long it may be necessary to lay the plants down on their sides, and thus render the operation of layering easier. If stock is plentiful only the strongest shoots should be retained for layering. Afterwards the frames should be kept close for a week or so and shaded during bright sunshine. Air may then be gradually admitted. When roots have formed the lights may be removed. As they pass out of flower healthy young plants should be selected for potting on as specimens. The potting soil should consist of good mellow loam, and where it can be procured old mortar rubble may be used instead of sand to render the whole porous, for it must be remembered that all Carnations enjoy lime. Crushed oyster-shells may also be used with advantage. With the exception of a 6 in. potful of fine bone-meal to every bushel of soil, no manure should be added to the potting compost. The plants should be firmly potted, and careful watering is necessary until they are well established in the new compost.

Arctotis aureola.—This beautiful South African plant is by no means so popular as it deserves to be. This is no doubt due to the fact that most cultivators find it very difficult to propagate by means of cuttings, and it is not generally known that it is easily propagated by means of layering at this or any time during the summer in a cold frame, or it may be successfully done outdoors. As advised for Carnations, the plants are best turned out of their pots and the shoots layered in the usual way. *Arctotis aspera* and *A. revoluta*, although not such showy plants as *A. aureola*, are still well worth growing for the cool conservatory. They are both easily propagated by means of cuttings, which may be inserted any time during the summer months in a close case in a cool house.

Primula Forrestii.—Generally speaking, this Chinese *Primula* has not proved successful outdoors in this country. It is, however, worth growing for the cool greenhouse. In addition to its deep yellow flowers, its rugose leaves are quite handsome. It is easily raised from seed sown in a cool house. Its seed is sown at this time good plants should be secured for next year. This *Primula* is a perennial, and is longer lived than most members of the genus. With age it forms several crowns, which affords means of increasing the plant by dividing and rooting the crowns in a close case. As this *Primula* grows on limestone

cliffs, lime in some form is necessary in the potting compost. For this purpose old mortar rubble is as good as any, as it serves to keep the compost sweet and porous.

Agapetes buxifolia.—This plant, which produces pretty, red tubular flowers in profusion, is not so generally cultivated as it should be. It is easily propagated at this time by means of cuttings, which root readily in a close case in a

cool house. It makes a neat bush when grown in pots, but is seen at its best when planted out in a shallow bed of sandy peat in a cool conservatory. Although enjoying ample moisture at the root, drainage must be free and rapid, for in its native state this plant is partly epiphytic, hence stagnant moisture at the root soon proves fatal.

J. COURTS.
Royal Botanic Gardens, Kew.

UNCOMMON PLANTS AT THE BATH AND WEST SHOW

THE plants exhibited in the horticultural section of the Bath and West Southern Counties Agricultural Society at Plymouth were one of the chief attractions to the huge crowds, numbering about sixty thousand people, who visited the Show.

Gardening in Devon and this part of England is mostly outdoors, but some of the finest gardens in the country are to be found here. Glorious Mimosa trees, which are only hardy in sheltered spots in many parts of Great Britain, flourish. Mimosa—in the shape of *Acacia pulchella*—came from the Plympton Nurseries of Messrs. Chalice and Sons, as also some *Callistemon* (*Metrosideros*), which are recognised as the popular "Bottle Brush Trees" which here thrive in the open.

Some similar plants came from the Exeter nurseries of Messrs. R. Veitch and Sons, including the beautiful *Davidia involucreata*, the large white bracts of which were some six, long. *Witsenia* (*Aristea corymbosa*), a rare South African iridaceous plant, was exhibited by them, the delightful blue flowers of which are seldom seen in this country. *Embothrium coccineum* and the white *Callistemon alba* were other interesting plants.

Herbaceous plants were shown by Messrs. Wallace all the way from Tunbridge Wells and by Messrs. Blackmore and Langdon, Bath, whose wonderful *Delphiniums* were a sight seldom seen at this date. They also had some gorgeous *Begonias*. Godfrey and Son, of Exmouth, had giant Poppies and Lupins, as well as fine *Pelargoniums*; while Mr. Gullick, of Salisbury, staged *Pyrethrums* so artistically that this plant, which blossoms just when flowers are none too plentiful, must have many new admirers; some daintily tinted Lupins showed them off well. Messrs. Rich and Co., Bath, also had *Pyrethrums*.

Roses (perhaps the harbingers of the first outdoor-grown flowers exhibited this year) were sent from Messrs. Jarman of Chard and the Devon Rosery, Torquay; also a beautiful group from Messrs. Cutbush and Son.

Sweet Peas, well displayed, were exhibited by Mr. J. Stevenson, Wimborne, the sunproof Poppy Orange variety and the sweetly perfumed Wild Rose and *Cynthia* being prominent.

Other interesting plants of the Show were the Sunbeam Poppies from Messrs. Baker, Wolverhampton; while dainty and miniature rock plants in the shape of miniature *Dianthus* and *Anchusa* came from Messrs. Maxwell and Beale and Bowell and Skarratt.

From Dartmoor some extra well flowered *Rhododendrons* were exhibited by Messrs. Bray and Son of Okehampton. One is inclined to associate this plant with sheltered nooks, but this exhibit proves their hardihood. Messrs. Waterer, Son and Crisp also had a fine group.

The Show was open for nearly a week, but despite this and the heat one noted that the Carnations from Messrs. Allwood Brothers and Stuart Low and Co., Bush Hill Park, not only had stood the long journey to the West, but maintained their freshness; even the *Dianthus* Allwood held up nearly as well as the giant and fragrant White Pearl.

St. Brigid Anemones, which thrive so well in Devonshire gardens, were staged by Messrs. Reamsbottom; and vegetables, well grown and tastefully arranged, came from Messrs. James Carter and Co. and Toogood of Southampton.

Orchids are not largely grown in the West Country, but a small exhibit of easily grown



WITSENIA CORYMBOSA.

varieties was sent by Messrs. Stuart Low and Co. from their Jarvis Brook, Sussex, nursery.

Cornwall, whose gardens in places assume a sub-tropical aspect, although so near, sent but one exhibit in the shape of *Cinerarias* from Mr. Hodge, St. Austell; yet the duchy might have shown Oranges picked from the open, and Australian plants and shrubs in great variety. To see a Cornish garden with its giant Blue Gum trees (*Eucalyptus globulus*), *Embothrims*, *Acacias* and specimens of *Dracena indivisa*, to say nothing of Bamboos 20ft. high, is a revelation. Cornish gardeners are not exhibitors, or there would be many more to envy their delightful climate than there are.

This exhibition has been managed for many years by the Rev. A. T. Boscawen, whose delightful garden near Marazion contains many unique plants.

TWO CHARMING SCENES IN WIGTOWNSHIRE

QUITE recently I have visited the beautiful gardens and grounds of Logan House and Castle Kennedy. Logan is one of the most attractive places in the South of Scotland, and its gardens, which now comprise an epitome of the finest flora of the world, are constantly and assiduously superintended by its proprietor, Mr. Kenneth A. McDouall, who has a competent and practical gardener in Mr. McBryde. At the period of my visit the *Rhododendrons* (in which Mr. McDouall and his genial brother, Mr. Douglas, take a very special interest), the *Azaleas* and *Primulas*, and the brilliant miniature beauties that adorn in thousands the exquisite rock garden, including some *Iris*es of distinctive character and early-flowering attributes, were especially impressive. Among the very finest of the *Rhododendrons* were such superbly effective varieties as Pink Pearl, Alice and R. Dalhousianum, of which the last mentioned has, in its individual flowers, the peculiar grace of an Oriental Lily, such as *Lilium Browni*, or *Longiflorum Wilsoni*, while its fragrance is that of *Magnolia Watsoni*, but somewhat less pronounced and more refined. Many of the climbers that adorn the garden walls, and especially in the vicinity of the ruins of the ancient Castle of Logan, were supremely ornamental; while a myriad *Primulas* of charming colour adorned the famous "Ladies' Walk," which leads from the gracious western environment of the gardens to the sea. There are several fine *Magnolias* in Logan gardens, including *Soulangiana*, *conspicua*, *stellata* and *Watsoni*. Of these by far the loveliest is *Soulangiana*, of which I recently saw an especially arresting and commanding representative in Westmorland, near Patterdale, on the sylvan banks of Ullswater—"the English Lucerne."

A few days subsequently to this memorable visit I cycled to Castle Kennedy, which, with the return journey through a tropical heat, culminating in a thunderstorm which I partly experienced, signified a run exceeding forty miles. But if atmospheric conditions were exacting, I was amply repaid. I had the great privilege of being conducted through the gardens and nobly wooded terraces of this "earthly paradise" (which has three exquisite lakes for its perfect adornment) by Mr. R. Findlay, the head-gardener to its proprietor, the Earl of Stair. There I saw, in the first place, beneath the magnificent ruin of the ancient castle, the grandest collection of the Lily of the Himalayas (*Lilium giganteum*) I have ever beheld. Thereafter we repaired through a glorious avenue of Conifers to the pre-eminently beautiful oval lake, which has been called "The Basin" for several centuries, and of which there is a charming delineation, crayon drawn, in Sir Herbert Maxwell's picturesquely written book on "Scottish Gardens." While the *Marliac Nymphs* and snow-white *Arum Lilies* adorn its calm surface, it is at this special and inspiring season of the year, environed by *Azaleas* of gorgeous hues and *Rhododendrons* the varied colours and prodigality of floral affluence of which (especially manifested in such varieties as R. Broughtoni and R. Loder's White) are marvellous to behold. Such pictures of imperial beauty as these are treasures ever afterwards in the memories of Nature-loving men. When these are reflected, with the far-extending shadow of the ancient castle, in the mirror of the miniature lake on a calm, benignant evening, the vista is one the radiant loveliness of which cannot adequately be described.

DAVID R. WILLIAMSON.

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PERENNIAL PLANTS FROM SEED

The sooner such seeds can be sown after ripening the better the results.

FROM the point of view of the amateur gardener perennial plants are raised from seed for three reasons. In the first place, raising from seed is a cheap way of obtaining a stock; secondly, it is a procedure full of interest; and thirdly, plants from seed have, speaking generally, a vigour alien to those propagated vegetatively.

The reason that perennial seed raising is so comparatively little attempted is not so easy to find, but is unquestionably based upon an obscure legend that such raising is difficult. With some noteworthy exceptions perennial plants are as readily raised as the biennials (and perennials treated as biennials), such as Wallflowers, Forget-me-nots, Antirrhinums and Polyanthuses.

Seeds of hardy perennials are now offered by several reliable firms, while in most gardens seeds of many species and varieties could with a little trouble be harvested. Of course, a certain amount of consideration is necessary before seed-purchase or harvesting is undertaken. There is little use in raising a batch of *Centaurea montana*, for instance—even should the plant be esteemed—when a large and robust stock may readily be obtained by division. Unless the inclination is set upon systematically devoting a considerable area of ground to the raising of new varieties, it is unwise to attempt the herbaceous Phloxes from seed or the Michaelmas Daisies, both of which habitually produce a large proportion of utterly worthless seedlings. The same may be said of *Veronica spicata*, of which in a large batch hardly two will be alike either in habit or in foliage.†

For seed raising to be worth while it is not necessary that the seedlings come true to type. In comparatively few

cases can this be relied upon with the improved sorts and strains usually met with in gardens. None of those next to be mentioned reproduce themselves true, yet all are worth raising, since the whole of the produce will be healthy and vigorous—an important point this upon new,

imperfectly worked or difficult soils—decorative, and in all ways desirable for the garden.

Such are Delphiniums, seedlings of which are especially vigorous and of good stature; Lupins, which rapidly lose vigour when divided; Gaillardias, which from seed will often stand outdoors

where named kinds are lost each winter; Bearded Irises, very interesting to flower, but plants may be rapidly increased by division; Aquilegias, of which, however, none, except *Helena*, can be relied upon to come true; Campanulas, especially *persicifolia*, *lactiflora*, *pyramidalis* and *carpatica*; Pinks, of which seedlings are very free-flowering but seldom possess the quality of the parents; Galegas, easily raised and generally come moderately true to type; Geraniums, of which the most valuable species for the herbaceous border, *Wallchianum*, varies much in colour from seed, but all the shades are beautiful; Heucheras; Torch Lilies, but species such as *caulescens* or *Northia* come true to type; Everlasting Peas, *Lathyrus latifolius*—seed saved from *White Pearl* will usually "throw back" to give a proportion of pink and rosy purple forms almost all somewhat deficient in size; *Lythrum Salicaria*, *Purple Loosetrife*, of which the rose forms throw a large proportion of rose-coloured seedlings; Oriental Poppies, which should be flowered on a reserve ground before planting in the border; Pentstemons, very interesting if saved from a good strain; Pyrethrums; and Verbasums—*Miss Willmott* always throws a proportion of soft yellow-flowered plants.

The above have been collected together not only because, while varying from seed, they are worth raising, but because they are all readily raised. All may be sown in drills in the open border if a



THE BEAUTIFUL MADONNA LILY, *LILIUM CANDIDUM*, MAY BE RAISED FROM SEED.

A VALUABLE GERANIUM FOR THE WILD GARDEN. *G. ATLANTICUM*.

THE VALUABLE YELLOW-BRACTED RHEUM ALEXANDRÆ.

moderately rich piece of ground can be placed at their disposal which is in the open, quite free from pernicious perennial weeds and moderately so from annual ones. Sowing in drills is preferable to broadcasting, because if the ends of the rows are marked a line or straightedge may be employed to shew the row, and the hoe plied between when the seedlings are still tiny. All these are open border plants, and sowing in a shady corner as often recommended would be detrimental to the health of the seedlings, but shade must certainly be provided until the seeds germinate. Narrow boards or tiles placed over the rows and lifted every day or so for inspection are most satisfactory as giving shade and also conserving moisture. If the ground has been well dug in winter or spring, there is no need to disturb it to any depth—to do so would leave it hollow—but the drills when drawn—depth according to the size of seed, but, generally speaking, quite shallow—should be thoroughly soaked with a fine rose can before sowing takes place.

There are many gardens, especially new gardens, in which well cultivated, moderately rich but weed-free sites are not to be found. In such case it will be much more satisfactory to sow the seeds in pans or boxes in a nice "silky" but not overlight compost and stand them upon an ash bottom in a frame looking north. The whole frame may then be kept close and shaded until the first lots appear, when light and a moderate amount of air must be given, unless they are removed as they come up to another frame. If seeds and seedlings must perforce stay together, the ungerminated boxes may readily be covered with boards or even with folded newspapers.

Herbaceous plants of the same easy culture which come true (or true enough) from seed include *Gypsophila paniculata*, *Geums Heldreichii*, *miniatum aurantiacum* and *Mrs. Bradshaw*; *Aquilegia Helena*, also all true species from *collected* seed; *Artemisia lactiflora*; *Bocconia*, both species; *Cheiranthus Allionii*, best treated as a biennial; *Coreopsis grandiflora*, also short-lived; *Echinops*, but good seed is not produced every season; *Kniphofia*, true species; *Jasione perennis*; *Linaria macedonica speciosa*; *Linum*, all species; *Tree Lupinus* if saved from either yellow or white forms quite away from others; *Physalis Francheti* and *P. Alkekengi*; *Potentilla nepalensis*; *Rheums* of sorts; and *Thalictrum*, all species.

The above list excludes rock garden plants as such. It is hoped to deal with them in a succeeding article. The enthusiastic gardener will wish to know of other perennials likely to repay the labour of raising from seed, even though germination be slow or the culture requires especial care. In the latter category must be placed bulbous plants of all kinds. Speaking generally, new seed germinates fairly quickly, but the seedlings of some species take many years to flower, notably those of the *Narcissus*. The amateur would in any case be well advised to leave the improvement of this flower to those with long experience of the business and the latest seedlings to use for cross-pollination.

The raising of *Tulips* from seed is chiefly interesting if species are raised in this way. A stock may thus be obtained of species which are not often seen in gardens. The seeds should be sown in light, clean, but moderately rich soil either in deep pots or in borders in a specially prepared frame. On no account must any attempt be made to prick out the seedlings when in growth. This is the stumbling block which has brought about the downfall of many an amateur's hopes. If sown in pots the seedlings should be left undisturbed for two seasons. Grown under a frame and sown thinly, four years may be allowed to elapse before the bulbs are transplanted. When the pots are shaken out, the little *Tulip* bulbs will be found near the bottom, while in frames many will be found a foot below the surface. They must be replanted in rich soil, but without fresh manure, and it is advisable to bed each bulb on a little clean silver sand. *Tulips* usually flower in from five to six years from seed. The raising of *Crocus* species should follow the same routine.

The *Gladiolus* grows more rapidly from seed, which is better sown under lights than in pots. Given good soil and thin sowing—they should not be transplanted—many of the *primulinus* hybrids, if sown immediately the seed is ripe, will flower the following season. All *Gladioli* should flower the second season from seed. All things considered, there are few more interesting border plants to raise from seed than the *Gladiolus*.

By many gardeners, unfortunately, the *Lily* family is looked on with suspicion as a race apart. To endeavour to raise *Lilies* from seed would be to some mere folly, and yet the best *Lily* bulbs procurable have been raised from seed; moreover, they are quicker to flower than *Tulips* and infinitely quicker than *Narcissi*. *Lilium Thunbergianum* and *L. philippinense formosum*, for example, may readily be flowered the second year, and *L. candidum*, *L. regale*, *L. pardalinum*, *L. Martagon* and other good garden *Lilies* should all flower in the third and fourth season. Trade growers usually sow the seed thinly

PRUNING AND THINNING FLOWERING TREES AND SHRUBS

on deep beds of rich but clean soil in a layer of sharp silver sand and leave them there until they flower. The reason for this is that the young bulbs scarcely become entirely dormant, or, if they do, do not ripen off together, so that removal causes serious damage, probably loss and certainly delay.

Closely related to the Lilies are the Fritillarias, also quite easily raised from seed. No one probably will wish to raise the Crown Imperial from seed—indeed, as a rule it does not seed very freely—but the Snake's-head, *Fritillaria Meleagris*, and related species are prolific seed bearers, germinate well, and may even be transplanted successfully when in growth (similarly to Onions); but this is wasted labour and not advised. Other uncommon bulbs may, of course, be raised and present no special difficulty if shade-loving species are given shade and those which need summer baking have it provided for them. In the former



THE REMARKABLE PRIMULA LITTONIANA.

class must be placed the delightful Dog's Tooth Violets (*Erythronium*), which in a shady frame, come readily from seed and usually flower the second year.

The hardy Primulas represent a race of which the easiest method of increase is certainly by seed, but they should be sown immediately the seed is ripe. Germination is then, in the majority of cases, very good and even and almost immediate. The young plants should be protected from too much sunlight, and when dry weather prevails a sharp look-out must be kept for aphid and red spider. Prevention is better than cure, and a good preventive when the plants are tiny is to flood the pan to the brim with soapy water occasionally. For this to be effective the pans must not be filled very full previous to sowing. As the plantlets become bigger the undersides of the leaves may be reached with an angle-jointed sprayer. If hardy Primulas sown as soon after ripening as seed could be procured do not germinate before winter, either expose the pans to a snowfall or cover them deeply with collected snow.

THE pruning of trees and shrubs is an art that requires judicious care and a considerable knowledge of the plants in question on the part of the pruner.

All pruning should be done with a view to flowering the following year, so that there may be no lack of blossom annually. Some people allow their flowering trees to grow as they like for a number of years until they get too large for their positions and then severely lop them after flowering, possibly with the idea that they should not require further pruning for some years to come. This is false economy, for besides making the trees look hideous for two years or more, only a few stray trusses of bloom can be obtained during that period; the young growths are far too crowded, and aphides play havoc with the wealth of young and tender leaves. This too often applies to Hawthorns, Laburnums, *Pyrus floribunda* and Cherries. Another barbarous method of pruning is the indiscriminate use of the garden shears upon flowering shrubs, clipping them into dumpy bushes in spring even before they come into bloom or should do. Such shrubs as Flowering Currants, Lilacs, Syringas and Deutzias can only give a truss of bloom here and there, where the shears have missed cutting the base of the flowering shoots clean away. Happily, most people who love shrubs know that this is wrong, but it is sometimes perpetrated in gardens under public authorities.

THINNING BY WAY OF PRUNING.

Summer pruning, where it is required, could well be placed under the heading of thinning, and it applies to those shrubs which flower in spring upon the old wood, or in summer on short lateral shoots from the old wood. Those that flower early on last year's growth would include *Spiræa Thunbergii*, *S. Veitchii*, *S. arguta* (often named *S. a. multiflora*), *S. Van Houttei*, *S. hypericifolia* and *S. prunifolia flore pleno*. These sometimes get rather crowded, and this may be rectified by cutting out a sufficient number of the oldest stems to make room for those bearing vigorous young shoots, retaining all strong growths of this year unshortened, even if that necessitates the removal of a considerable number of the older and weaker ones. The thinning should not be overdone, but calculation made as to how the bush is likely to fill up. Of the above, *S. arguta* and *S. Van Houttei* are the most likely to require thinning.

It is surprising how little pruning certain trees require if planted in places where they can be allowed to assume something like their natural size, whether they are grown upon low or tall stems. This little pruning or trimming they require should be given annually and not at long intervals. Hawthorns, Laburnums, Caragana, *Pyrus floribunda*, *P. f. atrosanguinea*, *P. f. purpurea*, *P. spectabilis* and the Judas Tree (*Cercis Siliquastrum*) naturally form round-headed trees, and if the shoots are allowed to grow full length they gradually produce spurs all along their length and flower profusely every year. Hard pruning will never encourage increased bloom, but hinders it by the production of strong young wood. Low branches may be removed until the head gets high enough to avoid inconvenience in the garden. Straggling branches may be shortened to maintain the round shape of the head. They seldom grow so dense as to require thinning, unless they have previously been lopped. Twiggy growths with plenty of spurs give the most blossom. If an occasional thick branch

has to be removed, the wound should be well tarred to keep out the spores of fungi. Especially is this the case with the Judas Tree, which is very liable to the coral-spot fungus. When this appears the diseased branches should be cut back to healthy wood and the wounds well tarred. *Laburnum Vossii* is a weak grower, compared with the others, and grows rather erect. It is therefore useless to prune it with the idea of making a round-headed tree. A better plan is to plant it where a broad-headed tree would be inadmissible.

As regards Almonds, Cherries, *Prunus cerasifera*, *Pissardi*, Bird Cherries, *Prunus subhirtella*, *P. Mahaleb* and all stone-fruited trees generally, the less pruning the better, and this may be done annually in winter or summer by cutting back straggling shoots and removing other undesirable ones. To shorten all the young shoots with the idea of keeping the tree small would be cutting away most of the flowering wood. The vigour of young trees may be restrained by root pruning them occasionally in October. Hard pruning and lopping are productive of gumming and other diseases. Even in confined spaces they should be planted where they could grow 12ft. to 15ft. high at least, without inconvenience.

Catalpas are peculiar in the manner of their growth. The leaves are either opposite or in threes, and no terminal bud is produced. To develop a shapely specimen from a small tree, a strong shoot should be trained upright to form a leader, till a trunk has grown 8ft. to 10ft. high, when the tree can be allowed to grow as it likes. Two or three buds at the end of each branch will give rise to as many shoots, forming a round-headed tree naturally. The side branches below the intended head can be removed, a few at a time every year or two, as the tree progresses.

SPECIES THAT REQUIRE CONSIDERABLE THINNING.

Certain strong growing shrubs that flower during June and July require a considerable amount of thinning, on account of the great number of thin and mostly useless shoots which they produce, and which tend to overcrowd the bushes, thus reducing the number of flowers and their size. The stronger growing species of Syringa (*Philadelphus*), including *P. coronarius*, *P. Gordonianus*, *P. grandiflorus*, *P. latifolius* and *P. Satsumi*, are particularly liable to crowding. *Deutzia scabra* (*P. crenata*) and its varieties, Lilacs, Snowball Tree, Guelder Rose, *Kerria japonica flore pleno*, Weigelas and the Japanese Quince (*Cydonia japonica*) may also be put into this category. The thin and useless twiggy branches should be cut back to the base, and if objection is taken to the height of the tall Syringas and Lilacs, the longer stems may be cut well back, always bearing in mind that plenty of this year's growing shoots should be retained unshortened, otherwise there will be no flowers next year. They require all their time now to grow and set the flower buds by autumn. The Lilacs could have been thinned to advantage immediately they finished flowering. The Weigelas do not grow so tall and need only have the flowered shoots cut back. Thin out old stems of *Kerria*. *Cydonia japonica* is best thinned in summer. Trees on walls may be spur-pruned in winter, or the side shoots shortened to joints, when they cease growing, and further shortened to rim in winter. The common *Hydrangea hortensis* and its varieties should have the flowering shoots cut well back to a good bud after the flowers fade, and this will answer the purpose of thinning. The flowerless shoots must

not be cut in any way. *Cytisus purpureus* and *Philadelphus Lemoinei* renew themselves from the base every year, so it is only necessary to cut out the shoots that have flowered, preserving the young ones.

EVERGREEN SHRUBS AND TREES.

No systematic pruning is required by evergreen trees and shrubs, unless they are trained upon fences or walls. Dead shoots or branches should at any time be cut away. Straggling branches may here and there be produced, and one plant may grow into or overlap another, owing to close planting. Such offending shoots or branches should be cut back to make the bushes stand clear. This applies to *Berberis Darwinii*, *B. stenophylla*, *Cotoneaster microphylla*, *C. thymifolia*, *Choisya ternata*, *Faurustinus*, *Fiery Thorn*, *Rhododendrons*, all species of *Escallonia*, except *E. Philippiana*, *Ceanothus Veitchianus*, *Camellias*, *Magnolia grandiflora*, *M. g. exoniensis*, *Garryas*, *Olearias*, *Kalmias*, *Pieris*, *Andromedas*, *Arbutus*, *Pernettyas*, *Rosemary*, *Lavender* and shrubby *Veronicas*. After all space available on walls or fences has been covered by *Crataegus Pyracantha* and *C. P. Lalandei*, the summer shoots that extend away from the wall can be shortened back in August or earlier, if growth is completed. The twiggy growths and spurs may be allowed to extend several inches away from the wall, because this favours flowering and fruiting. When *Rhododendrons* are beginning to get too tall for their position, it is a good plan to layer the lower branches to get young plant. The old plants will break again if cut down in early March. Hardy Heaths, like *Erica vagans*, *Calluna vulgaris* and their varieties, may have their flowering shoots cut back, nearly to the extent of the current year's wood in autumn; *E. carnea* late in April. No *Daphnes* require pruning, beyond regulating straggling branches.

NO PRUNING AT PRESENT

Quite a number of shrubs flower on the current year's growth, and can be pruned more or less hard, late in winter, or early in spring. These are now flowering or will bloom later, and should not be interfered with at present. They include all deciduous species of *Ceanothus*, all hardy *Buddleias*, except *B. globosa*, *Hydrangea paniculata*, *Spiraea japonica* (including all forms of it grown in gardens or catalogued under such names as *S. callosa*, *S. Fortunei*, *S. Bunnalda* and *S. Anthony Watereri*), *S. Douglasii*, *S. salicifolia*, *S. tomentosa*, *S. Menziesii*, *S. Lindleyana* and *S. Arctifolia*.

It is well to remember that such tall, sun-loving things as *Elaeagnus*, *Syringas* and *Snowball Tree*, on the north side of walls or fences, will not bloom well, if at all, if cut below the level of the same. They should be allowed to have full exposure to sun and air.

The proper pruning of flowering trees and shrubs is very important, and should certainly not be neglected. Far more shrubs, however, fail to flower through barbarous cutting than from want of pruning. Better by far leave shrubs unpruned than let the average jobbing gardener prune them.

HOKRIANUS.

THE PERENNIAL LARKSPUR

FEW flowers have been more greatly improved of recent years than the Delphinium. Further great improvements may safely be predicted, but the plant as we know it to-day is among the most useful in the garden. An alteration or development of a flower is not always an improvement. The round petalled form which the florists

when we approach the fuller colourings. Many people find the white-centred cobalt blue sorts "spotty" in appearance, especially in mass planting. They pin their faith to shades of deep purple, violet and indigo with bee-like centres. In the writer's opinion this spottiness represents tradition rather than observation. Certainly these white-centred forms are very beautiful for



THE OLD BUT BEAUTIFUL DELPHINIUM BELLADONNA.

insist on in the perfect Tulip has lost much of the charm of the flower with more pointed petals. This, in the half-expanded state we all appreciate in the Rose, has a far more graceful outline. In the case of the Delphinium, however, development is, at any rate for the present, taking place along the right lines. The Larkspur is essentially a stately flower. Let us therefore seek to breed into our seedlings all the graceful stateliness and stately graciousness of which the flower is capable. Since grace is an objective, forms with stub-ended-overcrowded spikes should be eliminated as quickly as possible and replaced by others seemingly modelled on a good example of an English church spire. The tapering cones should have flowers of sufficient substance to withstand ordinary English weather, and they should not be overcrowded. The ungraceful Dutch Hyacinth effect is emphatically not wanted in the Delphinium. Many single Delphiniums are wonderfully beautiful, but their glory is apt to be transient compared with the semi-double forms, so that it is this latter class for which it is best worth striving.

So far agreement will in all probability be general, but when one comes to discuss the question of colouring, tastes will be found to differ widely. It will, however, probably be fairly generally agreed that there is room for more really good azure blue varieties. The raisers are probably all alive to this, but varieties in this colour are not easy to produce with the stately spire so much admired. The clear pale blues are also much appreciated; differences of opinion come mainly

cut flower. Many critical spirits dislike the combinations of colour found in each blossom of many Delphiniums. The admixture of true blue, purple, mauve and rose in some varieties is certainly extraordinary, but the *tout ensemble* is almost invariably pleasing. There should be room in gardens of any size for almost every shade found in Delphiniums except white, which the writer, at any rate, could well do without. These "white" varieties are for the most part the colour of unblued distemper, but *Morheini* is quite decently white until there comes a shower of rain, when the underlying blue comes out as a dingy lilac tinge.

Like the mixed colours in the individual flowers, a mixed bed of seedlings will get on fairly well together, but segregate the blues from the purples, propagate them and arrange them in colonies, which is, after all, the most delightful way of growing Delphiniums, and if a colony of azure ones strikes the line of vision near a rosy purple clump, they will cry aloud to be separated.

The Delphinium, if it is to attain perfection, must have a rich deep soil, which must be well cultivated in summer. Clumps should be divided every third year. Of its value for massing in the herbaceous border there is no need to speak, but it is perhaps not sufficiently appreciated how effective strong "colonies" are in a shrubbery border nor what an acquisition they are in that favourite part of the demesne—the wild garden. If the plants are well fed they will grow away quickly when the first spikes are removed and

flower again freely in autumn. Some of the newer varieties, indeed, form a multitude of long, elegant side spikes which greatly prolong the flowering season. The principal enemies of this invaluable plant are slugs, which by persistently gnawing on the incipient shoots in early spring weaken and even destroy it; rabbits, which are "impossible" visitors to the garden; sparrows, tits and finches, which sometimes peck the tender growths to pieces; and, above all, mildew. Delphiniums, unlike Roses, do not seem to vary greatly in their susceptibility to this hideous disease, except that old and over-propagated varieties are more subject than newer and more robust ones. Good cultivation, which will maintain the constitution of the plants and prevent

the inequalities of moisture at the roots which predispose to disease, and an avoidance of draughty corners when planting are the best preventives. Flowers of sulphur dusted on or liver of sulphur sprayed on—care being taken with either specific to cover the undersides of the leaves—are the most effective remedies. To be effective they must be used immediately the fungus shows itself.

Lists of varieties in a flower which progresses so fast seem a little futile, but of those now in commerce the best tall varieties are perhaps Millicent Blackmore, Statuaire Ruble, King of Delphiniums, The Alake, Mrs. Creighton, Queen Wilhelmina, Rev. Lascelles and Lizzie van Veen. Of the more leathery varieties of middle height, Belladonna, Belladonna semi plena, Fanny

Stormonth, Capri, Mrs. Thompson and Lamartine are excellent; while for the front of the border the beautiful deep azure species tatsienense is first rate. The red-flowered species nudicaule and cardinale and the sulphur Zulu are another story. Effective tall herbaceous plants are not over-numerous, so that it is new spiry varieties which are most wanted. Mr. Watkin E. Samuel of Wrexham is specialising in these, and in some of his new varieties, five of which have recently received the award of merit of the Royal Horticultural Society, the flowering spike is quite pit. long, carried on stems of almost incredible height and stoutness. Such plants as these will make their presence felt in the back of the herbaceous border.

LUPINS AT CATOR COURT, DEVON

THE rather meaningless jumble of geometrical or merely shapeless beds in which years ago one often saw hardy perennial plants displayed has given way, under the influence of improving taste in matters horticultural and the wave of fashion which almost always follows improvements of this kind, to the simple herbaceous border or, more usually, the straight walk bounded by herbaceous borders on either hand. Such borders admit of much variety in arrangement, since the whole border may be carried out in shades of blue or pink, for instance, or certain colours may be made dominant in particular sections of the border and the whole scheme made subordinate to them.

This is not the time or place to discuss the arrangement of such borders. They are mentioned only to point out that the long formal border is not the only way in which hardy perennials may fittingly be displayed. The massing of Rhododendrons and other flowering shrubs so as to define turf vistas, often contoured, is a recognised part of present-day garden design, and such treatment is becoming appreciated by a wider circle year by year. This style of planting is, however, still unusual as applied entirely to herbaceous plants. How effective it may be the accompanying pictures and a little imagination as to colouring will shew.

Such planting, skilfully carried out, displays to the full the natural grace and individuality of the plant, while making an added appeal because it shews it under conditions approximating to those in which one would imagine it growing wild. It is not every house, of course, of which the architecture would admit so informal a treatment close to it, but where parterres or formal beds and borders are called for in the immediate surround, space can usually be found for more natural planting a little further afield. If the ground at disposal falls from either side to, it may be, a trickle of water, or, failing this, if it has a slope and a setting of trees—there is nothing much more beautiful than an old Apple tree—so much the better.

Considerations of space will insist that some of us grow our Lupins and Delphiniums, our Irises, Peonies and Poppies in formal borders. The more need, then, that those who may, should grow these plants under more natural conditions where their individuality may be better appreciated.

There are many gardeners who take a legitimate pride in growing successfully rare and difficult plants, but it must be confessed that, where decorative effect is the object sought, those plants should be looked for which flourish with the least



A BEAUTIFUL GROUPING.



DRIFTS OF LUPIN AND SINGLE ROCKET.



A FINE STRETCH.



CLOSER INSPECTION SHOWS THE INDIVIDUALITY OF THE FLOWER.

possible attention and which seasons drier or wetter than the normal do not seriously affect. To this easiness of culture add the capacity to provide broad effects, and it will be easy to see why at Cator Court, which, on the fringe of the moorland, stands 1,100ft. above sea level, Lupins have been selected for early summer effect. With these is associated, as will be seen in some of the pictures, the single white Rocket, which has a pleasing Stock-like fragrance. Irises of all kinds, but mainly Bearded sorts, are also grown, as well as Paeonies. Later, Oriental Poppies make a gallant show, followed by Hollyhocks, Delphiniums and Sweet Williams, which in their turn give way to herbaceous Phloxes and Michaelmas Daisies.

Practically all the Lupins seen in the pictures originated from two packets of seed, one of *Lupinus polyphyllus* and the other of *L. polyphyllus* x *L. arboreus* hybrids. Their increase is of the simplest, either from seed, which may be sown outdoors either in spring or summer (as soon as ripe), or by division in autumn.

The immense range of colouring now to be found in herbaceous Lupins seems not fully to be realised. Too many people still think of this flower in terms of the rather dingy white and dowdy purple generally seen five and twenty years ago, with the possible addition of one of the first-introduced pink forms, of which the flowers, as they passed their best, deepened in colour and took on an ugly purplish tinge more to the taste of carrion flies than human beings.

To-day the colour range is truly marvellous, and if the purpling of the passed flowers of the pink sorts has not entirely been abolished, it has at any rate been mitigated. From deep violet-purple through a multitude of tones of mauve and lavender and from an almost pure deep blue through brilliant almost "electric" shades we reach a good clean white. These ranges of colour may be traced in flowers which for practical purposes may be called self-coloured, but in addition there are innumerable forms in which the standard is of some shade of blue or purple and the wings of a shade of yellow or clear white.

Downer's Delight is a strikingly coloured form with more than a hint of brick-red in the combination. It is the only Lupin which has a tendency to be "quarrelsome," not only with other plants, but with its own kindred. Leaving this variety aside, however, there are several shades of an almost true pink and numbers of yellow-pinks giving warm buff and apricot tones. Few flowers have such a colour range as this.

Much of the diversity of colouring has unquestionably been obtained by crossing the herbaceous (*polyphyllus*) forms with the fragrant Tree Lupins (*Lupinus arboreus*), and it is pleasant to record that many present-day varieties which in habit of growth shew no trace of *arboreus* parentage have retained, at least to some extent, its delightful fragrance.

At Cator Court seeds of the Lupins and Rockets are sown in drills in a nursery garden in April, pricked out in rows a foot apart and transferred to their permanent situations in autumn. The Delphiniums are raised in boxes under glass and subsequently transferred to the nursery. The Bearded Irises are divided and replanted after flowering, and the Phloxes are divided in late autumn. Phloxes may, of course, be readily increased from cuttings in spring.

The soil is admirable for propagating and also excellent for growing plants suitable for division, being a light peaty loam. It never cakes, and retains winter moisture excellently. Hoeing, therefore, presents no difficulties, which is fortunate, as weeds spring up in battalions in such congenial soil.

A BEAUTIFUL CHERRY

BY GERTRUDE JEKYLL, V.M.H.

THE genus *Prunus* provides us with a large number of flowering trees and shrubs, for the same generic name includes not only Plum and Cherry, but also Peach, Apricot, Almond and Laurel, besides our native Blackthorn, Gean and Bird Cherry. Several species belong to

25ft. In the case of the specimen shown in the illustration, which is growing in Miss Mellersh's garden at Holloway Hill House, close to Godalming, it has been trained horizontally with a circumference of 75ft. Among the numbers of beautiful Cherries and Plums in cultivation, this is one of the earliest to bloom.



A FLAT-TRAINED SPECIMEN OF THE ROSEBUD CHERRY.

Asia Minor and a number come from China and Japan, the last being the home of *Prunus pendula*, where it becomes a good-sized tree, though in England it stops at a height of 20 ft. to

It is a precious thing in March and early April, brightening the garden before deciduous trees are in leaf. It has the pretty popular name of Rosebud Cherry.

HERBACEOUS CALCEOLARIAS

IN common with the *Cineraria*, these share an unenviable reputation as "dirty" plants, and it is no use attempting to disguise the fact that they are especially liable to attack by aphides or green fly. He who would grow them successfully must be prepared to fight these unceasingly from start to finish and then they are one of the easiest and most gorgeous of all greenhouse flowers, to say nothing of their economy in heat. Indeed, it is just here that we come to the root cause of a great deal of the trouble; no single degree of heat should ever be used that can be avoided, and where kept under the coolest possible conditions all the while, it will be found that green fly is far less troublesome and the result in every way superior. The finest and healthiest lot of plants I ever saw were grown in an old ash pit, converted into a small greenhouse by placing some old frame lights over the top so as to form a span roof. The floor was the natural earth and an entrance had been made at one end with a rough door made from an old orange box. There was no method of heating the place and—beyond standing the plants on the floor and covering them with newspaper and throwing old table cloths or rugs over the roof during the severe cold—the plants were quite unprotected against the sharpest frosts. Further than this, the house had a north aspect and was shaded from all sun by an old garden wall. Here, in May and June, one could always see a gorgeous display of tigered selfs and spotted flowers on giant plants, the pale green wrinkled foliage of which was a pleasure to behold—plants

that would have done credit to Chelsea itself or any other great flower show.

Seed should be sown now. Development is very slow in the early stages and the foundation of a large plant—2½ ft. to 3 ft. across—is laid in early sowing and steady continuous development until flowering time arrives. Seeds are extremely minute; they are the most difficult of any to distribute thinly and evenly, and a finely sifted compost is essential. Two parts of loam to one of fine sand, perfectly mixed together, is suitable, sifting this through a fine meshed sieve and placing the rougher part that will not pass through at the bottom of the pan or box in which the seed is to be sown. Fill in the remainder of the space to within a quarter of an inch of the rim with the finer soil, making this quite level, and finish by watering through a fine-rosed can. After leaving for an hour for the superfluous moisture to drain away, everything is ready for sowing. The packet should be opened with care, inside a greenhouse or shed, so as to be secure from sudden puffs of wind. The seed is usually contained in a small inner envelope and should be mixed with an equal bulk of the finest silver sand, such as is used by housewives for scouring purposes, as this facilitates thin and even sowing. Simply scatter it on the surface and do not attempt to cover in any way with soil. A pane of glass should be laid on top and the pan stood in a cold frame where the sun cannot reach it, for a very brief exposure to this is sufficient to end their existence. Water will not be required for some time, but immediately the

surface shows signs of drying, the pan should be immersed to half its depth in tepid water until this has percolated right through to the surface, then take out and drain and replace in the cold frame again.

When signs of germination are observed, and it takes keen sight to note this in its earliest stages, the pane of glass which covers them should be tilted at one corner with a small piece of wood so as to allow some air to reach them; gradually withdraw this as the young plants gain size and strength. Keep them moist and cool until they are large enough to handle easily before transplanting. This is a delicate matter, as the plants are extremely brittle and the greatest care is necessary in handling them or they will die off wholesale. I usually prick them into boxes first—about 3 ins. apart—and grow them on in these for a few weeks until the leaves are nearly touching, and then they are transferred to single pots.

A compost of two parts fibrous loam, well pulled to pieces, to one of old rotted manure, with sufficient sharp silver sand to make the whole porous, is ideal, and while pressing this down firmly, take care not to make it too solid or the thin fibrous roots cannot work easily among it. Replace them in the frame where they should be kept as far into the autumn as possible, consistent with security from really sharp frost. The base of the frame on which the plants are stood should consist of a bed of ashes 6 ins. thick; this not only prevents the ingress of worms, but assists in maintaining the cool and humid conditions so favourable to healthy growth. Overhead sprinklings, through a fine-rosed can, should be given each afternoon when closing the frames for the night. Considerable trouble will be avoided if an insecticide is mixed with this occasionally, though insect pests are not usually troublesome until the plants are in the greenhouse. Every scrap of decaying foliage must be removed, and especially as the autumn comes on, or they are apt to set up decay at the collar and lead to loss of the plant.

Good specimens in autumn should be in the form of rosettes of healthy dark green foliage, without the least signs of drawing or a speck of green fly. The removal to a greenhouse must be effected unless the frame in which they are growing is furnished with hot water pipes, into which the circulation from the boiler can be turned as required, but they should only be taken indoors when sharp weather threatens. These are ideal conditions and most growers have to house them among a miscellaneous collection of other plants. In any case, give them a good light position on a staging covered with shingle or ashes and well away from the hot-water pipes. As a maximum, 45° of heat should not be exceeded, while the plants must have plenty of water. Early in the year, when signs of renewed growth become apparent, the plants should be given a shift into the flowering size. Five-inch pots are large enough for most plants, the most vigorous specimens going into the 6-inch size. Use similar compost to that recommended previously and drain the pots freely, watering carefully until these are well filled again with roots. As the flower stems commence to push up, thin green pointed stakes should be inserted, sloping these outwards so that the heads will have space to develop fully without crowding. Tying must be carefully done; the flower stems are quite as brittle as the foliage and it is very easy to snap them.

From this time onwards watering should be given regularly with weak liquid manure of varied character, this being a great assistance to the production of large flowers, but it must be really weak, especially in the case of all chemicals. Constant vigilance must be exercised all the time they are in the greenhouse for the appearance of green fly,

and directly the first one is noticed, fumigate lightly, following this up a few days later if any live insects can be found. Shade must be afforded the opening flowers on all days when the sun is bright. No plants so quickly

show foliage disfigured by exposure to sunlight as these, more especially if at all dry, and every care must be exercised to keep them uniformly moist and well shaded whenever the sun is bright.

CROYDONIA.

A NEW PEST OF STRAWBERRIES

BY HERBERT W. MILES, N.D.A., DIP. AGR. HONS. (HARPER-ADAMS).

FROM time to time "white grubs" are reported as doing serious damage to Strawberries, and they are generally understood to be the larvæ of the cockchafer (*Melolontha vulgaris*, L.) and those of the garden-chafer (*Rhizotrogus solstitialis*, Fabr.). So far, however, no case has come to the writer's notice of any species of *Geotrupes* being recorded as culprits in this connexion. During the winter and spring of 1921-22 numerous instances of serious injury to Strawberry plants by white grubs were observed at the University of Bristol Agricultural and Horticultural Research Station, Long Ashton. Some of these white grubs were collected and kept under observation in the laboratory, with the result that, when the adults emerged, they proved to be the Common "Dor" or dung beetle, *Geotrupes spiniger*, Marsh.

The larvæ are thick, fleshy grubs, whitish in colour and much swollen and distended towards the tail end. Owing to the contents of the alimentary canal being partially visible through the outer layers, a faintly bluish coloration is imparted to the hind portion of the grub. There are three pairs of light brown or straw coloured jointed legs, and of these the posterior pair are much reduced, being only about one-third of the length of the intermediate and anterior pairs. The head, which can be partly withdrawn into the first thoracic segment, is brown and provided with very strong dark brown biting jaws. Mature specimens measure from 1½ ins. to 1¾ ins. in length. When unearthed the grubs are seen to be in a sharply curved position somewhat in the form of a narrow U, the lower surface of the thorax resting on the under surface of the last few abdominal segments, which are broad and flat.

The pupa is a stout whitish and fleshy body. It is covered with a thin membranous coat, through which the outlines of the limbs can be seen. It is located inside a strongly constructed earthen cocoon. The pupal stage is about ten weeks in duration.

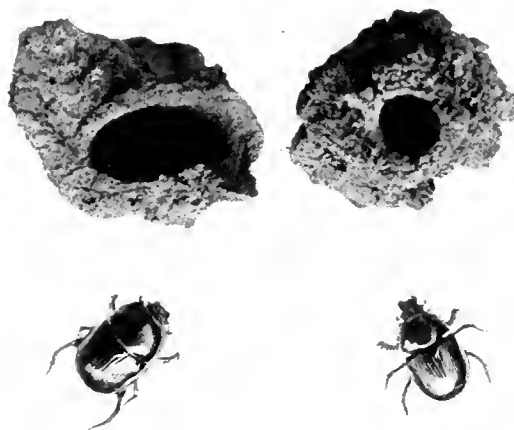
The adult (see figure) is a typical dung beetle. It is bluish black in colour with the upper surface quite free from scales or pubescence, and the lower surface studded with stoutish bristles which, in the last four abdominal segments, are more thickly massed at the sides than in the centre. The under surface is a rich metallic violet blue colour. The thorax is comparatively smooth on the disc, but is finely punctured towards the sides. Near the lateral edges of the thorax there are two distinct depressions. The elytra are shallowly striated and very rounded at the apex. The legs

are much toothed; they have numerous spines and bristles and are typically fossorial.

Where the grubs were feeding at the roots of Strawberries the main roots had been severed either partially or completely, and the stocks had been damaged by the gnawing of the insect. In severe cases the plants had been utterly destroyed.

LIFE HISTORY.

In the usually accepted accounts of the life history it is stated that the female tunnels below dung and taking down certain portions of it masses them together, and in the ball thus constructed lays an egg, from which the larva emerges



ADULT DUNG BEETLES AND PUPATION "NESTS."

in about eight days. The grub then feeds on the prepared food, which is supposed to be enough to satisfy its larval requirements.

The presence of larvæ in Strawberry beds may possibly be accounted for, where farmyard manure has been torked in during the winter, by supposing that this attracts the female for egg-laying. If only a small amount of the manure is left undecayed it might prove insufficient for the larvæ, which, after exhausting their stock of food, proceed to move about in the soil and feed on the roots of any plants with which they may come into contact or on any available vegetable matter. An alternative explanation is that the food supply prepared by the female is normally insufficient, and that the larva lives, for a shorter or longer period, on other organic matter in the soil. This, however, is a point which can only be elucidated by the careful observation of controlled life-cycles.

In cases where the larvæ are feeding at the roots of plants their development may be much slower than when feeding in dung and, like the chafer grubs, they may spend about two years in the larval stage. When fully fed the larva is very restless and moves round in the soil until a fairly even cavity is formed. It then proceeds to pass soil through its body. This

soil is voided as a soft mortar-like mass and is pressed against the side of the cavity by the upper surface of the caudal portion of the larva until it sets hard, when the grub detaches itself and proceeds to line the adjoining areas. Finally the whole cavity is lined, forming an even cell in which, after a short time, pupation takes place. In the accompanying figure such cells are seen; the left-hand one measured 1½ ins. in depth, while the right-hand one was 1 in. deep and ½ in. across the exit hole. In captivity the pupal stage lasted about ten weeks, the adults emerging towards the end of April.

Very little is known regarding the length of life of the insect, however; a French writer, Labitte, in a paper on "The Longevity of Certain Insects in Captivity" (*Abst. R.A.E., Series A, Vol. V, page 20*), gives the total life of an allied species, *Geotrupes stercorarius*, as occupying 1,137 days, *i.e.*, three years and six weeks.

NATURAL ENEMIES AND CONTROL MEASURES.

In common with other white grubs, the larva of *G. spiniger* is probably subject to the attacks of rooks, jackdaws and seagulls, while Collinge records the nightjar as destroying the adult beetles.

Apart from destroying the adults whenever they are seen crawling near Strawberry beds, control will probably take the form of good cultivation in spring and lifting and replacing sickly or injured plants. Where the nature of the injury indicates the possible presence of root-eating grubs, the surrounding soil should be examined and any larvæ destroyed. This is an expensive and laborious method when employed over large areas, but is quite practicable in small beds and, in the present stage of our knowledge of soil insecticides, is the only treatment which can safely be recommended.

ERICA CINEREA AT MIDSUMMER

THE first of our native Heaths to bloom (though *E. Tetralix* may run it very closely on some moors), the common "Bell Heather" holds a place of no little importance in cultivation, for it comes into flower in early summer, that is, before the other principal groups—*ciliaris*, *vagans* and *Calluna vulgaris*—are showing any colour.

Though never a tall grower, cultivated varieties of *E. cinerea* may now be roughly divided into two sets, the one being normal in height and the other quite dwarf and very compact. Among the former the first to flower (early June) and the best for extensive planting is *E. c. rosea*, a lovely form with soft rose coloured flowers in which the bluish tint often seen in the wild plant is entirely absent. Another first-rate variety is *E. c. spicata*, which has longer sprays (6 ins.) of red-purple blossoms, not quite so taking in colour as the preceding.

The white varieties of *E. cinerea* are not a success with us, having the same fault as *E. carnea alba*, *viz.*, shyness of blooming, but the dwarf white is, if anything, better than the taller one. Among the coloured forms of the lesser *E. cinerea* are several excellent varieties, foremost among which is *E. c. coccinea*. This is quite a low, close-habited little plant, but it is one of the earliest to come into flower, and its freely-produced blossoms are an intense crimson-scarlet that at once distinguishes it from any other hardy Heath. *E. c. atrosanguinea*, the deeply bronzed foliage of which breaks into a fine ruby crimson about Midsummer Day, is, perhaps, the next best of this class, and *atropurpurea*, with rather a more purple hue, is another well worth a place.

All of these are quite at home on our dry, loamy, sun-beaten banks, and once established they will "carry-on" for many years, increasing in beauty as they grow older.

N. WALES.

CORRESPONDENCE

SILVER-LEAF DISEASE

I READ in your excellent paper last autumn the detailed account of how someone had absolutely cured a Peach tree under glass badly diseased with silver-leaf by the application of doses of soot and water at certain periods during autumn, winter and spring. This good news seemed to me to be on the lines of the Gospel—Mr. Jacob please note—really too good to be true, because a friend who has written much on kindred topics has assured me most positively that *silver-leaf is absolutely incurable*, adding, however, a proviso that if a tree does get cured it is not true silver-leaf. Sort of mental reservation?

Well, to proceed. Having five Plum trees in my garden affected with silver-leaf, two very badly, I thought it was at least worth while to give the thing a trial; so I studied again the article in THE GARDEN and found you had to mix soot in a bucket with water till it was a paste—a nasty job. No, thank you! So I put a shovelful of soot round each of the affected trees, forked it over and watered it twice. This my gardener and I did from last autumn to the present time about five times.

Great was my interest this spring to see the leaves of the Plum trees; but I have waited till the leaves are now well out and expanded, and write to say that we cannot find a trace of silver-leaf on any of the five trees. They are all in excellent condition, no extra growth, and two are bearing a heavy crop of Plums. Of course, it remains to be seen whether the silver-leaf will return.

I have been thinking the matter over, however, and have come to this conclusion, that there must

be in soot, besides sulphate of ammonia, some fungicide which the trees take up with the stimulant. I wonder if any reader can give us the



A SMALL GARDEN. THE TENNIS-COURT SURROUND.

chemical analysis of soot? I am also very strongly inclined to think that a similar treatment to Apple trees suffering from canker would cure them. Well, of course, everyone will be agreed who did not see my trees that they never had silver-leaf at all—at least, not the real thing—and I really expect that hardly any other reader of your paper with trees suffering from silver-leaf tried the remedy, because it seemed too good to be true.—W. E. M. CORELAND.

MAKING A SMALL GARDEN.

SOME time ago a suggestion was made in THE GARDEN that photographs and descriptions of small new gardens might be interesting to its readers, as a contrast to the beautiful old large gardens so often illustrated.

Twelve years ago this Somerset garden was a bare windswept field of less than an acre, surrounded by a low ragged hedge and containing nothing but four Walnut trees planted in a straight row. Here and there some Llus in adjoining fields could be seen above the hedge. It is an amateur's garden. The owners, who were quite inexperienced, planned it themselves and laid it out by degrees, and for the first nine

years had no resident skilled gardener. Three years ago the owner of a pair of skilled hands and a good brain, who had already done much to help and advise, began to give all his time to the garden, and was joined at the same time by another (trained) gardener, so that latterly

the little place has had every care and attention.

The first two or three years passed in a long struggle against drought and winds, which took a heavy toll of young newly-planted shrubs and trees. It was difficult to encourage even Laurels to grow sufficiently to provide a little shelter; then came the war and the enforced neglect of the flower garden, the little available labour being concentrated upon the fruit and vegetables. But now shrubs, such as *Choisya*, *Photinia*, *Viburnum Carlesii*, *Ceanothus* and *Azara microphylla*, flourish; a specimen of the latter against the terrace wall measures 20ft. in height.

A terrace walk leads to a rose pergola, which is continued by a lime walk, bounded on one side, in the shadow of the trees, by a spring garden, gay at that season with bulbous flowers and *Berberises*, and, when the Limes are in leaf, brightened by *Columbines* and, later, *St. John's Wort*. On the other side, between pillars of *Irish Yew*, the tennis lawn, sundial garden and shrub garden come successively into view. In front of the house a tiny formal garden surrounds an old pump.

The garden makers had one great asset, plenty of old stone for paths and borders; and one great drawback, so much of the soil was poor and full of stones. They hope these pictures may encourage others to create small gardens of their own, seeing the results which may be obtained in twelve years under most unfavourable conditions (in the war the flower garden and lawns became a jungle). These garden lovers are self-taught from books and papers, THE GARDEN being a faithful friend during the whole twelve years.—K. D. W.

THE DURATION OF HOLLYHOCKS

ARE single Hollyhocks long-lived plants? There is a beautiful single salmon-pink Hollyhock ten years old in this Highland garden. It is one of Dobie's seedlings, probably of Alleghany descent, as the flowers have trilled



IRISES IN THE SHRUB GARDEN.

edges. The plant, which, of course, has grown into a clump, has never been disturbed and has always flowered freely, throwing up four to six spikes every year and promises to do so again this summer.—E. B.

[Single Hollyhocks are more robust and often longer-lived than the double ones, but odd clumps of double Hollyhocks some years old are not uncommon. Few would care, however, to rely upon their longevity.—ED.]

A FINE DAVIDIA.

I HAPPENED to visit the garden of Mr. J. A. Christie, Framingham Manor, Norwich, on June 1, when his specimen tree of *Davidia lutea* was at its beauty. At a first glimpse from a few yards away the bracts look very much like numerous three-corner paper bags tied to the branches. The tree is 20ft. high and the circumference of its spread is 60ft. I think it must be as good a specimen as can be found anywhere in Eastern England.—H. PERRY.

IRISES AND WATER.

THE Iris family at last appear to be getting the attention they so richly deserve. Personally, I think wrong handling of this genus has had a lot to do with keeping it in the back ground. When one mentions *Iris Kämpferi* to people, one often gets the reply, "Ah, yes! I would love to grow them, but they must have water and I have no suitable position." I think the long drought last year should have knocked on the head the opinion that Irises must have water. While many plants that are certainly not looked upon as bog plants were absolute failures, *Iris Kämpferi*, with us, were never more beautiful. A patch of 5,000 plants in light gravel soil with roots practically touching gravel were a perfect picture just at the time when the drought was at its worst. One naturally looked for short stems and washy coloured flowers that would go over in a few hours, but they were just the reverse. Stems of some varieties were well over 3ft., and the blues and purples were simply gorgeous. Another batch of 3,000 planted in the dampest position we could find were very erratic. Certainly there were many good flowers, but in comparison to the large plot they were failures. Again this year we have the same result. The ones on light dry ground are smothered with buds, and coming away strong and even. At the present moment a pond near by is full of *Iris ochroleuca*, and although they are certainly beautiful a few stray plants through the place are equally good. How many people are denying themselves one of the most beautiful flowers because they are under the impression they must have water?—W. SLINGER, Newcastle, Co. Down.

A GLORIOUS GENTIAN.

THE interesting catalogue of Gentians given in THE GARDEN for June 17 (page 287) makes no mention of *Gentiana Farreri*. Perhaps all your readers have not seen the description of it by the late Reginald Farrer, whose name it bears. It was he who discovered the plant in the mountains of Northern China. The following quotation is taken from his book, "The Rainbow Bridge," written in the year 1920: "*Gentiana Farreri* . . . bids fair to be as solid a permanency as *G. Gentianella* itself. It is perfectly hardy and (what is very remarkable in any Gentian, but miraculously so in a Gentian so miraculously beautiful) it is perfectly vigorous and easy to deal with in any reasonable conditions of culture in a cool place, not parched or waterlogged. . . .

In addition to growing so freely and flowering so lavishly in so late and dull a moment of the year (August and September), this preposterously good-tempered exception to the rule of its race keeps its glory open, rain or shine, can be struck from cuttings as copiously as a *Viola* and layered along its shoots as complacently as any *Carnation*. . . . And its beauty! . . . I stood rapt in contemplation before the actual plant . . . well worth the whole two years' expedition merely to have seen it. . . . Every day in early September brings a fresh crashing explosion of colour. Each

where it succeeds, and some cultivators grow it splendidly.—ED.]

A RARE SHRUB.

I AM sending you a photograph of *Fabiana imbricata* growing in a stable yard in this county. The bush is about ten years old and is planted against a wall facing south. It receives no protection in winter.—SOMERSETSHIRE.

[Though of Heath-like appearance, *Fabiana imbricata* is not a member of the Order *Ericaceæ*, belonging, in fact, to the *Solanum* family. A native of Chile, this beautiful shrub succeeds outdoors only in the milder parts of Britain. Attempts to acclimatise it at Kew have not been successful, though it has occasionally survived a winter outdoors. From gardens with a suitable climate it ought on no account to be omitted.—ED.]



A FINE PLANT OF *FABIANA IMBRICATA*.

of the weakly stems concludes in one enormous upturned trumpet more gorgeous than anything attained by *G. Gentianella*, but in the same general style and form. But the outline is different with a more subtle swell to the calice, and that freaked outside in heavy lines of black purple that divide long vandykes of dim periwinkle blue with panels of nankeen buff between; inside, the tube and throat are white, but the mouth and the wide bold flanges are of so luminous and intense a light azure that one blossom of it will blaze out at you among the grass on the other side of the valley. . . . It is like a clear sky soon after sunrise, shrill and translucent as if it had a light inside. . . . It literally burns in the alpine turf like an electric jewel, an incandescent turquoise."—M. F.

[The writer of the article in question was careful to point out that the varieties mentioned were not exhaustive. He wrote only of the species he had successfully tried. *Gentiana Farreri* is certainly a good plant, though whether in cultivation it deserves the extravagant encomiums of the late Reginald Farrer is another matter. *Gentiana Kurroo* is another beautiful Gentian

THE ROTATION OF CROPS.

ON page 229 I made a remark that the "sowing or planting of a deep rooting crop after a shallow rooting one enables the plants to feed at different levels in the soil." This has been construed by W. H. Lodge (page 294) to mean that I am an advocate of shallow cultivation, whereas I have practised deep cultivation for more than forty years. I have had all sorts of soil to deal with in my time, from heavy soils of unknown depth to deep, light soils overlying sand, and a sandy soil averaging 6ins. deep, overlying coarse, water-worn flint gravel of unknown depth,

and managed to take good crops off all of them. In early days I had ample practice in trenching the soil 3ft. deep and manuring it at different levels. We made a point of trenching about a third of the available space for vegetables every year in October, so that in the course of three years we had trenched the whole of the vegetable garden ready to begin again the fourth year. This was done without respect to the length of the roots, whether Radishes or Parsnips. It does not strike me that Radishes or Potatoes could collect so much food from deep levels as Parsnips. I know all about the capillarity of the soil or sufficient to enable me to take advantage of it. Roots that actually come in contact with the soil are able to dissolve and appropriate plant foods that the water of capillarity could not carry up. The more soluble plant foods are liable to be carried deeper and deeper in the soil, finally passing away in the drainage. We never used the watering-pot outdoors, except for newly planted bedding plants, seeds, cuttings or newly transplanted evergreens in late spring. There was neither club-root nor finger-and-toe in the gardens so cultivated.—J. F.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Hoeing.—The hoe should be used constantly among all growing crops, such as Onions, Carrots and Beetroot, during dry spells. This will not only destroy small weeds, but will check evaporation. Moreover, the frequent movings of the soil creates a mulch, which in itself is equal to a good watering and often far more beneficial, unless the latter can be regularly kept up.

Vegetable Marrows.—During intense heat there is nothing more congenial and helpful to these plants than a thorough drenching with water of the roots and all the foliage late in the evening. By pinching a few of the leaders occasionally a quicker fruiting condition is brought about. Remove all fruits immediately they are of sufficient size for use.

Seeds.—Additional sowings of Endive, Lettuce, Radishes, etc., must be made in accordance with requirements. Should the ground be dry all drills should be well watered before sowing.

Dwarf Beans.—Make a further sowing of these on a well worked piece of ground, watering the drills first if necessary. It is sometimes convenient to make use of the borders from where early Potatoes have been lifted for this sowing.

The Flower Garden.

Rhododendrons and Azaleas that have finished flowering should have all dead blooms and seed-pods removed. The latter particularly so, as they make a big drain on the energy of the plants if allowed to remain, while the former look untidy if the plants are in a prominent position. Recently planted specimens must be well watered during dry spells, or growth will be unsatisfactory, for it must be remembered that these plants have no long roots to penetrate into the ground for moisture, but balls of fibres only. Where the plants are grown in beds and a good mulching can be given this will be of great help in conserving the necessary moisture round the plants. Short lawn mowings and partly decayed leaves will make a suitable mulch should no manure be available.

Roses having exhausted themselves of the first crop of blossom should have all dead flowers removed. At the same time a few of the weak growths should be removed. When this work is completed give all the plants a good watering with weak liquid manure so as to assist in the building up of good wood to produce the next lot of flowers.

The Hardy Fruit Garden.

Thinning Fruits.—It is obviously impossible to lay any hard set rules down about what crop of fruit shall be left on trees, whether it be Plums, Apricots or any other fruits. The health of the trees must be to a great extent a deciding factor. If trees are in good health it is fairly safe to make them carry a good crop, as oftentimes such a practice will correct a little of the grossness of growth. Trees in poor or only moderate health should be allowed to carry but few fruits, and the same should apply to young trees which are being trained to fill up allotted positions if there is any danger that much cropping would give them an unnecessary check.

Fruit Under Glass.

Strawberries for Forcing.—As soon as the runners are obtainable a start should be made, by whichever method is followed in securing the required stock. I know of no way which gives better results than by layering into small pots, which should be half plunged between the rows in hatches of such size as are suitable to meet the demand of available runners. These runners, which supply plants for early forcing, are much better when obtained from plants set out last season for this purpose; but where such a practice cannot be followed some of the more healthy and vigorous rows should be quickly cleared of fruits and the plants be given a few good soakings of diluted manure water, which will soon revive the energies of the plants and make the young plantlets full of activity.

H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Late Sowings of Carrots.—Profitable sowings of the Early Short Horn varieties may yet be

made, utilising ground that has been cleared of early Potatoes. The Stump Root type matures quickly and will be ready for use by October.

Purple Sprouting Broccoli.—Where this variety is favoured no time should be lost in getting a quantity planted out. This sort proves useful in furnishing an early crop. Allow 2ft. each way between the plants, choosing a fairly rich and sheltered part of the garden.

Globe Artichokes.—Give these plants a generous mulch of half-rotted cow manure, so that a prolonged crop may be ensured. On light, gravelly soils frequent waterings should be given, both of pure water and of liquid manure.

Swedes.—Seed may be sown until the second week in July, which will produce nice sized roots for winter use. Sow a good field variety, as these seem to be more satisfactory than the so-called garden varieties, which generally produce more "neck" than root.

Cabbages.—Mid-season Cabbages that are for any reason slow of growth may receive a stimulus by giving a judicious application of sulphate of ammonia. Work the ground freely between the plants, and hoe up immediately the plants attain a reasonable size.

Celery.—Take advantage of showery weather to plant out further lots of Celery. Early batches which are well established should be given weekly applications of liquid manure from the byre, varied at times with soot water.

Fruit Under Glass.

Vines.—Mid-season Vines on which the fruit is swelling should be assisted with copious waterings of manure in liquid form, so that the development of large berries may be encouraged. Afford plenty of atmospheric moisture, allowing a free circulation of air, so that scorching of the foliage and scalding of the berries may be avoided. A chink of air may also now be left on over-night. Where the drainage is good and the soil of light texture, outside borders require to be well watered occasionally. Mulching is also of great benefit to the Vines, and considerable assistance may be derived from a surface sprinkling of Thomson's Vine Manure, given before watering.

Peaches in Pots.—Immediately early sorts are cleared of their fruit the trees should be stood in the open, where the wood may be allowed to ripen in a natural manner. Plunge the pots in leaf-soil or ashes to keep the roots cool, seeing at the same time that the trees in no way suffer from lack of moisture at the roots.

The Flower Garden.

Climbers of various sorts are growing freely and soon get into a tangle if not attended to, thereby losing in many instances their charming effect. When tying, use discretion, as most plants of rambling habit do not look happy if tied in tightly or in too formal a manner. Where growth is crowded, thin freely and allow for the proper development of that which is left.

Sweet Peas.—Care should be taken that the plants do not at this time receive a check, as when this happens they invariably disappoint throughout the season. Regular waterings should be given during dry weather, and where facilities allow, mulch freely on either side of the row.

Herbaceous Borders.—Plants which have not been lifted and transplanted for a number of years readily show signs of exhaustion at this time, the plants being quickly susceptible to hot sunshine or lengthy spells of drought. To create a cooler influence a liberal mulch of short litter should be given, working it well round the stools and over the neighbouring surface of the border.

JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

GREENHOUSE AND CONSERVATORY.

Carnations.—The earliest rooted batches of perpetual-flowering varieties should now be ready for their flowering pots, which should be 6ins. or 7ins. in size, according to the vigour of the respective varieties. The potting compost should consist of good mellow loam, with the addition of enough coarse sand and old mortar rubble to render the whole porous. Unless the loam is very heavy, little or no leaf-soil should be added, as it renders the growths rather soft, which is not desirable. A 7in. potful of fine bone meal and a 5in. potful of soot should be added to every bushel of soil.

The plants should be firmly potted, as they dislike a loose rooting medium. For early winter flowering, the plants, if properly managed, should not require any further stopping. Later rooted batches should be potted on as they require it and may be stood outdoors for the summer; but I do not advise this, for if they can be kept in a cool house cultural conditions are under better control, especially during spells of very wet weather. Watering must be carefully done at all times, and attacks of aphid and red spider guarded against. For anyone with limited greenhouse accommodation Carnations of this class are about as useful as anything, as one should be able to have flowers all the year round.

Border Carnations that have been grown in pots and have finished flowering should now be layered. For this purpose it is best to turn them out of their pots and plant them in a cold frame, or even in the open ground, layering the strongest shoots in the usual way.

Stocks.—Where grown for winter flowering, seed should be sown thinly without delay. If the seedlings are overcrowded they are very liable to damp off. The seed pans may be stood in a cold house or frame, shading them until the seed germinates. The Beauty of Nice type, All the Year Round, the intermediate so-called Covent Garden type and Lothian Stocks are all useful for winter and spring flowering. In the country with plenty of light it is easy to have them in flower during the winter. In the immediate neighbourhood of London, for lack of winter light, it is hardly possible to flower them successfully during the winter. Under such circumstances it is best to grow them for spring flowering. In such cases September is early enough to sow the seed. When large enough to handle, the seedlings may be pricked off into boxes or put directly into thumb pots. The potting compost should be the same as recommended for Carnations, remembering that lime is essential. The plants should be potted firmly, and 6in. pots are large enough for them to flower in. During the summer they may be stood in cold frames, exposing them fully to light and air. During continued spells of wet weather the frame lights should be put on, as the plants are impatient of too much wet at the root. When the seedlings are some 3ins. or 4ins. high, the singles can generally be distinguished from the doubles by their narrower leaves and more slender habit.

Wallflowers.—Double Wallflowers, both dwarf and tall varieties, are very useful for spring flowering in the cool greenhouse. Seed should be sown outdoors at this time, treating them like the ordinary single varieties, and by autumn they should have made good plants, when they should be lifted and potted. The plants are best wintered in cold frames, giving them plenty of air on all favourable occasions.

Canterbury Bells in numerous varieties are also splendid plants for the cool conservatory. As the seed is very fine, it is just as well to sow it in a box in a cold frame, pricking the seedlings off outdoors when large enough to handle. Pot them up during the autumn and winter in cold frames.

Hydrangeas.—From now onwards until the end of August good strong shoots should be secured for cuttings. These should be placed singly in small pots and plunged in a close case with slight bottom heat, where they will quickly root. When rooted they should be potted into 5in. pots and may be stood in a cold frame, which should be kept close for a few days until they get established. Afterwards they should have full exposure to light and air, even during autumn and winter, when the weather conditions are favourable.

Royal Botanic Gardens, Kew. J. COURTS

FORTHCOMING EVENTS.

July 1.—Windsor Horticultural Society's Rose Show.

July 4.—Royal Agricultural Society of England Show at Cambridge (five days). Royal Caledonian Horticultural Society's Meeting.

July 5.—National Flora and Pansy Society's Meeting. Cambridge Horticultural Society's Annual Show (two days). Colchester Rose Show.

July 8.—Ringwood Horticultural Society's Meeting.

PLANTS FOR A SMALL MORAINE GARDEN

(Continued from page 208.)

CYANANTHUS LOBATUS.—A further trial of this on the moraine was not successful. It always seemed to be checked when in flower, apparently by early morning frost in August, which sometimes is a cold month in this part of the North-East of England. From my experience I should not consider it a suitable plant for an open, exposed moraine, but for a more sheltered position and in richer soil. It was flowering beautifully in the Edinburgh Botanic Gardens last September, planted almost at the path level in a situation well sheltered from the morning sun, but receiving the mid-day and afternoon sun; it was also

C. tyrolensis, only another name, apparently, for a most aggressive form of *C. pusilla*.

D. arvensis. This is like a dwarf *D. casius*, forming a compact grey cushion from which spring pretty rosy pink flowers. Appears to be very happy.

D. Freynii. This grey-leaved dwarf compact plant still flourishes in its original position, the fairly large sized almost stemless flowers in my plant being white with a pink zone in place of the more usual rosy pink that is preferable.

D. neglectus. This, the loveliest of the family, flourished and flowered very freely for a time in a fully exposed position, but as it got older and the root-stock more woody the effects of damp

part of a sunk rock garden in a position fully exposed to the sun and apparently in soil containing a considerable proportion of leaf-mould. Slippings which were kindly given to me failed to establish, owing to the conditions at the time being very difficult for propagation. When seen at its best it is a lovely plant with good-sized bright rosy flowers on short upright stems springing from a mat of bright green foliage.

D. sylvestris. This did very well, but as the flowering stems thrown up were about 12ins. long and overhung other plants, it was removed from the moraine into another part of the garden, which, unfortunately, it did not approve of. However, it will have to be replaced from seedlings that I now have raised from seeds obtained in the Alps two summers ago, but a position on the outer edge where it can overhang will be more suitable for it.

Other *Dianthi* that find a place are *D. petraeus alba*, which has remained quite healthy and compact; while somewhat increased in size, it does not unduly encroach. *D. integer*, with a somewhat similar green foliage, is more compact and throws up white fringed flowers on shorter stems. The plant under the name *D. Lereschei* that I have does not seem to fit the description. The foliage, which is short, grassy greenish grey, seems about right, but the flowers, which are white, smallish in diameter, are thrown up on 3in. stiff stems. It increases very slowly and, flowering somewhat later than most of the other *Dianthi*, is both useful and quite worthy of a place. *D. microlepis*, a dwarf, compact species somewhat similar to *D. Freynii* in its best form, with bright rosy red almost stemless half-inch flowers, cannot very well be dispensed with. The great difficulty is in the winter to prevent it from being loosened out. The roots seeming to take very slight hold of the soil, are only too easily loosened out by frost and thaw and succeeding rain. This to some extent is prevented by laying a stone partially over the edge of the plant, and it is possible that glass protection would help to keep it in its place. *D. casius Bickhami*, has the usual tufts of glaucous leaves more compact, with deep rose red flowers on short upright stems.

The plant referred to as this in 1917 and received by me as such was quite different, although the foliage and flowers were similar, but much stronger growing, and flowers on longer pendent stems. *D. subcaulis*, a small greenish tufted plant, has rosy pink flowers of smallish diameter on about 4in. stems. *D. Wimmeri*, which is said to be a form of *speciosus*, has deep crimson flowers on long stems, flowering later than most of the other Pinks; only suitable for overhanging the edge of moraine.

Eritrichium nanum.—This brilliant blue gem of the High Alps as yet has not been tried. It appears from Mr. Farrer's own showing to be very difficult and, even on moraine, short-lived.

Heris petraea.—Very dwarf evergreen Candy-tuft with somewhat stiff branched foliage and the usual white flowers on short, erect stems; quite desirable. My plant, received from a friend in 1917, has been very slow in growth and very unlike the other members of that family.

T. ASHTON LOFTHOUSE.

(To be continued.)



THE BRILLIANT DIANTHUS NEGLECTUS ON THE MORAINE.

partially shaded by other plants with which it was associated.

Delphinium nudicaule.—Very effective with its uncommon red flowers in June. Quite happy for four or five years, but requires renewal from time to time, and this is fairly easy as, if allowed to seed, seedlings usually come up in the vicinity.

DIANTH.—*Dianthus alpinus*. Further experience has somewhat modified my early ideas as to this lovely Pink. Very few of the original plants referred to in 1917 exist now, and what do are not in very good condition. Successive wet and frosty winters have a deteriorating effect, causing the roots to loosen their hold of the soil, with the result that they decay and die, helped as plants are, especially if unhealthy, by various pests. It will, I am afraid, require occasional renewal, and it appears to succeed and live longer if it does not receive the sun until the morning is well advanced. It has done very well in a position (not on the moraine) that receives the afternoon sun, but this plant is badly feeling the effects of a *Campanula* that was received as

and frosty intervals in the winter eventually terminated its existence. It is, however, easily propagated by slippings or raised from seeds, and is worth a little trouble to maintain. The plants, however, seem to me happier and healthier in a less exposed position and possibly to have a longer life. It usually flowers twice if the earlier flowers are cut off before running to seed.

A *Dianthus* received from a friend's garden as *D. alpestris* seems to be a form of *D. neglectus* with exactly similar deep rosy pink flowers with buff undersides to the petals, but on wavy, pendulous stems about 6ins. long which are very effective planted on the outer edge of the moraine. The foliage is a similar green, but longer and less compact. A considerable amount of old crushed plaster or mortar is used by me for top-dressing most of the *Dianthus* family, which are also usually planted in a compost containing a good percentage of the same.

D. glaucus. In a North Yorkshire garden at the end of May, 1920, a magnificent lot of plants were seen in full flower, planted at the upper

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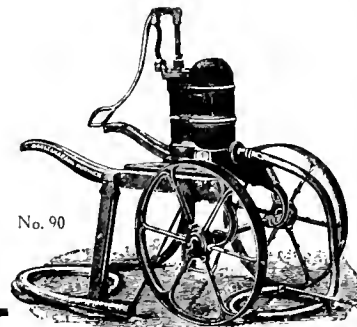
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We grow our Roses either in beds of one variety or in groups of twelve to twenty-four plants in long borders, and thus we are able quickly to see those which are the most decorative from a garden point of view. The red Roses first catch my eye.

General McArthur with its ample foliage, delightfully upright habit and fragrant crimson flowers, freely, but not too freely produced, is the type of plant which is almost ideal both for house and garden decoration. The flowers should be cut before they are half-opened (this applies to all single and to most decorative Roses), for the colour is then far brighter than if they are allowed to expand on the plant.

Richmond, another fragrant red Rose, makes an excellent bed, but it needs constant disbudding, otherwise the flowers come of a poor form and colour, whereas, if disbudded, both in form and colour it is superior to General McArthur; but the growth is not so strong nor the foliage so ample. Mrs. Edward Powell is a brilliant red Rose with very strong growth and fine dark bronzy foliage. The form of the flowers is rather poor, but they are produced abundantly. Red Letter Day and K. of K. are two of the most highly coloured of our red Roses, and both are excellent for the garden, also for the house if they are cut when very young. The flowers are almost single. With us Red Letter Day is the stronger and more upright grower, but K. of K. is the more brilliant of the two.

In a garden we visited two or three days ago in the neighbourhood of Canterbury some very tall standards of Hugh Dickson, full of bright crimson flowers, were extraordinarily decorative. This variety is, perhaps, a little heavy as a cut flower, but if cleverly arranged it can be made to look very handsome in a big bowl. Hoosier Beauty has every virtue a crimson Rose can boast—depth and richness of colour, good form and delicious perfume—but it has one bad fault which prevents it being a good Rose for garden decoration, namely, that it hangs its head. If used as a cut flower it generally requires wiring, but in spite of this drawback it is so beautiful we can hardly dispense with it.

The most fashionable tints among the Roses of the present day are no doubt those of deep

comment. Personally, I prefer it in the garden, where its somewhat hard colouring is softened by the various lights that play on and through it, to its appearance as a cut flower, especially as, when cut, it almost immediately hangs its head; also its superabundant thorns, which in the bed rather add to its beauty, are a distinct disadvantage when one wants to put the cut flowers quickly into a vase or bowl. Other Roses of this colour but with softer tints and less thorny stems are Lady Pirrie, Henrietta (very sweetly scented), the new Padre and the old China Comtesse du Cayla. This last, if very slightly pruned, will grow into a big bush and give quantities of its pretty buds till November. Lamia, Severine and Emma Wright are all varieties with flowers of somewhat similar shades of orange, bronze and apricot; while the almost single Old Gold has added tints of salmon and pink. They are, however, not quite so strong in growth as the other varieties I have mentioned.

Among the brilliant yellow Pernet varieties we have found Golden Emblem and Mrs. Wemyss Quinn decidedly the strongest growers. They throw up long stems, which makes them useful sorts to grow as cut flowers, though I always think these golden yellow Roses lose somewhat of their attraction when brought in to the house. Christine is also a fine golden colour, but is perhaps not so strong in growth as could be wished. The new variety Rev. F. Page Roberts promises well.

C. E. Shea, Mrs. Glen Kidston and Dorothy Page Roberts all make delightful groups of bright salmon rose tinted blossoms, and are worth growing for indoor or outdoor decoration. Mrs. Glen Kidston has a decided perfume.

In hot weather such as we had last summer some of the cooler shades are very welcome. The flesh pinks are abundant. Rénée Wilmot Urban,



INVALUABLE FOR MASSING AND EXCELLENT FOR CUT FLOWER—THE BRILLIANT ROSE LADY PIRRIE.

salmon orange, terra-cotta, bronze, copper and brilliant yellow; and in the Hybrid Teas and Pernetianas an almost bewildering number of these are to be found. Mme. Edouard Herriot is still the most effective of the terra-cotta shades in the garden. It is so erect in habit, so brilliant in colour and so extraordinarily free in flowering that no one can pass a bed of this variety without

not often seen, but very strong, and during the summer, at any rate, making exceedingly pretty, and well formed flowers, is worth a place in the garden; so are La Tosca and Pharisæer, the latter often being good enough for exhibition. La Tosca, if allowed to grow into a good-sized bush, puts up long, smooth stems with loose, artistic flowers which are specially delightful for tall vases. Mme. Léon Pain, a deeper salmon flesh, is quite the best garden Rose of this colour, but for some reason the flowers are apt to be a little disappointing and heavy when cut.

have expanded they open well indoors and last for a considerable time in water.

The Rugosas, which make fine bushes for garden decoration, are not good as cut flowers. They seem to shrink and fade quickly when cut. The chief use to which I put their exceedingly fragrant blossoms is to make them into pot-pourri. For this purpose they are unequalled.

In so short an article I can hardly write of the Climbing and Dwarf Polyanthas, or the Wichurianas, which through June and July add colour and gaiety to our gardens, many of which are most

Paul's Lemon Pillar, with large, perfectly formed lemon white flowers; and Paul's Scarlet Climber, the most brilliant red climbing Rose we have.

In the long evenings which "summer time" gives us we have ample opportunity for observing which Roses are the most effective for the garden, namely, those with clear, bright colours, good foliage and upright habit, the flowers being borne on stems which are sufficiently strong to hold them upright; and these, especially if they can be cut with long stems, are the Roses which we



THE RICH SALMON-PINK CHARLES E. SHEA.



AN EXCELLENT REDDISH-ORANGE ROSE—LAMIA.

Ophelia stands alone as a beautifully formed and fragrant Rose of pale flesh flushed in the centre with orange or pink. It is a refined Prince de Bulgarie, and is one of the most charming of flowers for the house.

Mrs. Herbert Stevens and Molly Sharman Crawford (Teas), with Mme. Jules Bouché (H.T.), are perhaps the best white garden Roses we have, though White Killarney, when grown under glass, is quite as useful as a cut flower. In the garden it is too much addicted to mildew to be a good bedder.

The cooler shades of pink are not fashionable at the present time, but they too have their charms. Mrs. E. G. Hill, pale pink with deeper reverse, puts up loose panicles of flowers which look well in the garden or the drawing-room, but they must not be put near any of the Mme. Edouard Herriot shades of colour or both tints will lose much of their beauty.

Among the Roses which will form big bushes we have found Moonlight, a Hybrid Musk, introduced by Mr. Pemberton, quite one of the most attractive. It puts up huge sprays of bronzy red, with large heads of small creamy white flowers. If these are picked before the blossom

useful for house decoration. Two pillar Roses, which as I write (June 24) are in the fulness of their beauty, call for special mention. These are

shall like to bring into our rooms, and for this purpose we shall also prefer those which to their other charms add that of fragrance. WHITE LADY.

HARDY HYBRID RHODODENDRONS IN 1922

Now that the Rhododendron season is on the wane and the hardy hybrids are near their finish, some reflections on the past flowering season may be made.

SO far as the earlier varieties were concerned, the conditions of weather prevailing at the time of flowering was almost ideal and, consequently, some magnificent blooms of such varieties as Pink Pearl, George Hardy, Loder's White, Alice and others of about this same period were seen to the finest advantage. Later, the extreme heat developed blooms at such a pace that their greatest effect was not such as would have been the case had more favourable conditions of weather prevailed. The later blooms, and more particularly those in

flower in the third week in June, owing to the considerable change in the weather, came out magnificently, and where freely planted made as grand a show as has ever been seen.

Undoubtedly the warm weather of last year, notwithstanding the extreme conditions of drought, had one effect, namely, the thorough ripening of wood, which has affected in a flowering sense not only Rhododendrons, but almost every flowering tree and shrub to such an extent that there is a flower on almost every available shoot, this being due entirely to the thorough ripening of

the wood. I suppose no such flowering season has been seen for many years. Such familiar plants as the Hawthorn, Cherries, Chestnuts, Acacias and Laburnums have been covered with a mass of bloom, and a similar condition has prevailed with the more shrubby flowering things, such as Rhododendrons, Azaleas, etc. The past winter, with its catchy periods, proved detrimental to the more tender varieties of Rhododendrons, more particularly those grown in localities to which they are not essentially adapted, and must have proved in many cases a considerable disappointment, and this one point leads me to enlarge upon the advantages of the strictly hardy hybrids, without which such counties as Surrey and Berkshire, and almost any county outside of the favoured few on the western seaboard and to some extent the limited number of favourably situated gardens on the southern slope of the hills of Surrey and Sussex, would have a comparatively poor show of massed bloom, as such can only be obtained there from the hardy hybrids.

Referring to the favourably situated gardens of Surrey and Sussex, here in woodland planting it is possible to obtain successes with a large number of semi-hardy hybrids and species that it is not possible to deal with even twenty or thirty miles away except the conditions be most favourable, and in one or two instances known to me there are examples of these more tender varieties succeeding, but their average annual show does not compare in any sense with that provided when the hardy hybrids commence to flower about the middle of May and onwards.

Recently, I have been in Devonshire and Cornwall, and in the case of the former was much impressed by one or two instances of the glorious effects of hardy hybrids planted perhaps forty or fifty years ago, and in one particular instance I have seen magnificent specimens of well known varieties, such as Broughtonii, Cynthia and others, carrying from 5,000 to 10,000 heads of flowers each. Seeing these plants in perfection, as I did, was a revelation even to me, who may be said to breathe Rhododendrons from one year's end to another. I took the rough dimensions of a plant of Cynthia in particular and estimated it to be 18ft. to 20ft. in height and 5ft. in circumference. The plant was in good health and carried a truss on almost every available shoot, the trusses being well developed as if it were only a young plant. I need hardly say that such a sight was worth going 200 miles to see.

I have often been told and have seen in print that the flower of Rhododendron Pink Pearl deteriorates in size as the plant grows older, and I confess, seeing how badly a large number of plants are cared for in private gardens, that this particular point has given me a great deal of disappointment from time to time; but during my visit to Devonshire I happened to see a plant of Pink Pearl some 10ft. in height from which the owner had disbudded some 50 per cent. of the bloom buds, leaving some 250 to 300 trusses to develop, and I do not hesitate to say that no finer blooms could have been seen. Many of the individual flowers were 5½ins. across. Attention must be given to anything in the garden to obtain its very best results, and I see no reason why equal attention should not be given to Rhododendrons as to many other plants in the garden which by average gardeners are well cared for.

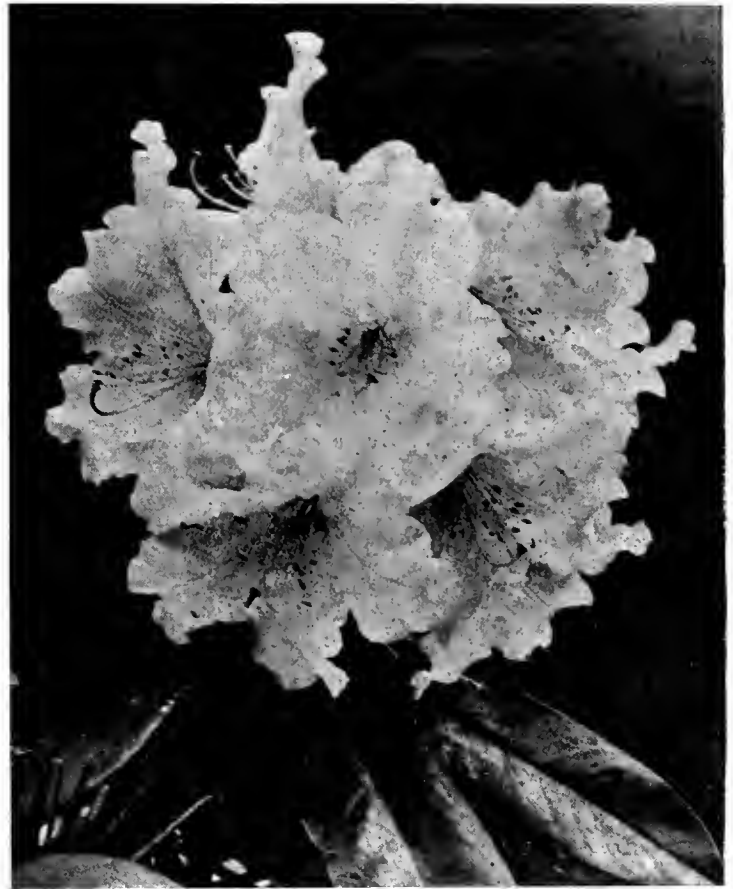
One does not have to go very far to see the disadvantages of bad cultivation. I know I am treading on dangerous ground, but during the second week of June I went to Kew, partly in response to a note which I saw in the daily papers that the following Sunday was to be regarded as Rhododendron Sunday. Here, I thought, was my opportunity to see Kew at its best. I was

grievously disappointed. The Rhododendrons in the dell were looking fairly satisfactory, but consist of many very old-fashioned types, which have been superseded in the last thirty or forty years by the introduction of better things, but what impressed me most was the condition of some of the beds in the open. I examined these carefully and found no signs of assistance in the way of a mulching to retain the moisture, and in many cases the roots of plants were actually visible. In consequence, they were nearly dried up and the blooms refused to expand for lack of moisture and sustenance. I submit that such a condition in our national garden should not be tolerated for one moment. In my view there is no more pitiable sight than to see plants in a half-starved or badly cultivated condition, and my feeling in seeing such plants is just the same as I have towards a cripple. There does not seem to be any particular necessity for me to enlarge on this point, but if plants are worth having at all they are worth looking after properly.

The Rhododendron is a plant which cannot be planted everywhere and, in fact, on certain soils containing lime in any form it is ridiculous to make preparations to receive these plants. The cost of establishing anything like a satisfactory compost for them to thrive in for any length of time is prohibitive, and even where, after treatment, plants succeed for a time, sooner or later the surrounding lime permeates to the prepared soil, with consequent failure of the plants. There are other soils, such as a very unkind clay or soils entirely lacking in fibre, where Rhododendrons do not thrive. That Rhododendrons can only be grown on a peaty soil is quite wrong. Probably the most favourable soil is a light fibrous loam, and I have knowledge of many Rhododendrons growing exceedingly well in soil which does not contain peat in any form. Undoubtedly the ideal conditions for Rhododendrons are to be found on certain districts of the "Bagshot Sands," more particularly in the valleys, where Nature has washed for centuries the better soil into the lower sections forming a deep surface of suitable compost largely of a vegetable character, while underneath the drainage is perfect. The "Bagshot Sands," when properly cultivated, are capable of supporting Rhododendrons to the very best advantage.

One of the finest Rhododendron soils to be found is in the neighbourhood of Heaton Mersey, near Stockport. This consists of an alluvial sand,

the upper portions containing a fair amount of fibrous loam. There are some magnificent Rhododendrons to be seen in this district, and the blooms produced are of the finest quality. Ideal



THE MANGLES HYBRIDS HAVE DONE WELL THIS SEASON.
ISABEL MANGLES, A PARTICULARLY FINE ONE.

conditions can also be found in many woods in all parts of England; in fact, the woodland planting of Rhododendrons is still in its infancy. The knowledgeable amateur has already found that much better results can be obtained not only in the quality of the bloom, but in the growth of the plant, and more particularly in the maintenance of the true colour, which in many Rhododendrons, when fully exposed to the sun's rays, is soon bleached and taken out of character.

In the North of England and in Scotland Rhododendrons and many other flowers are able to stand the full exposure of the sun, which is not so powerful as in the South, the atmospheric conditions being quite different. In the course of my business I have often been taken round gardens and shown successes or failures, and the many failures that I see are due entirely to lack of judgment in the placing of beds. Sometimes a draughty spot may be selected, or one on a southern slope where drainage and evaporation prevent any moisture remaining to serve the plants. Again, many Rhododendron beds are formed in a shape resembling a hog's back, and the poor plants that happen to be on the top of such an elevation probably never become thoroughly moistened after once being placed in position.

In other articles I have referred to the manner in which the average gardener rakes and sweeps up all the nourishment provided by Nature without attempting to replace it. A pricking over of the beds from time to time and a mulching of peat or leaf-mould, with, perhaps, the addition of

some cow manure, would make a marvellous difference to the well-doing of plants distributed in beds where ordinary nourishment does not reach them. In woodland planting, more particularly in wild form, Nature looks after these things to some extent, and although the original preparation of the ground should be thorough, in this case the after-care is never onerous. Dry seasons, such as we have experienced last year and to some extent already this season, show very clearly the contrast between proper cultivation and the lack of any care and attention.

Perhaps it may be of interest to mention Rhododendrons that I have this year seen flowering in fine form, and first I should like to name *Smithii album* or *Bodartianum*. This beautiful white, although flowering early, came through some very bad weather, and a large plant in the Bagshot Nurseries flowered almost to perfection. *Ascot Brilliant* was also very satisfactory this year, and this was followed almost immediately by *J. G. Millais*, a very fine Rhododendron owing its parentage on one side to *Ascot Brilliant*. It is said by many to be one of the finest hybrids ever sent out by the Bagshot Nurseries, and undoubtedly as a fairly hardy early Rhododendron it is very hard to beat.

Coming to the later section of Rhododendrons but still among the early forms of the hardier hybrids, *Pink Pearl* flowered grandly, and *Alice* probably has never flowered better. This grand variety may be said to rival *Pink Pearl*, not only as to beauty, but as regards general character and as an all-round garden plant. The old variety *Cynthia* has flowered magnificently this year, so have *George Hardy* and others of the *Mangles* hybrids, with the exception of the narrow leaf form which is usually known as *Manglesii*. This had suffered considerably in the bud at Bagshot and did not flower particularly well.

Bagshot Ruby and *Corona* proved again their great merit, and *Bernard Crisp* was magnificent where it was not exposed to the full rays of the sun.

Perhaps one of the best Rhododendrons of the later section is *Donald Waterer*. This beautiful deep pink with its yellow marking has been for a matter of a fortnight a prominent feature in the nurseries. Other varieties which have flowered particularly well this year may be mentioned as follows, namely, *Francis B. Hayes*, *Gomer Waterer* (of its type the finest Rhododendron yet produced), *Duchess of Teck*, *Michael Waterer*, *Frederick Waterer*, *Lady Cathcart*, *John Henry Agnew*, *Mrs. William Agnew*, *Minnie* and so on. It would be impossible to enumerate all the varieties that have been seen to flower well this season in favourable conditions, but it would not be right to pass over the particular merits of *Mrs. E. C. Stirling*, which produced some magnificent blooms this year, and the very old *Mme. Carvalho*, which even at the end of the third week of June was still very beautiful.

One thing which has much impressed itself upon me this year, although I have always known it, is the great beauty of some of the oldest hybrids. I refer to varieties raised some forty or fifty years ago. It is true when in the small state these sorts may be passed over, for it is only when they are sizeable plants that they begin to show their great merits. Such varieties as *John Waterer*, *Michael Waterer*, *B. W. Currie*, *Lady C. Mitford* and *H. W. Sargent* when seen as big plants are wonderfully beautiful. F. GOMER WATERER.

Mr. Waterer sent a photograph of the fine flowered specimen *Pink Pearl* to which he makes reference, which bears out his statement as to the vigour of the plant and size of the blossoms. Unfortunately the photograph is unsuitable for reproduction.—Ed.]

THE DEVELOPMENT OF THE CARNATION AND ITS HYBRIDS

ADVANCE in horticulture is so slow, so gradual, that to the average gardener it is scarcely noticeable, yet certain flowers at certain periods have, as it were, their revelation, and the old order of things becomes changed. Such an upheaval has taken place with the *Orchid* and the *Rose*. Floral

than the earlier American varieties; also they are more productive.

The greatest trouble with this delightful race of Carnations is that people will persist in coddling them with too much artificial heat and insufficient ventilation; also they will add leaf-mould to the potting soil, which the plants abhor. All the *Dianthus* family, in fact, grow better without it.

BORDER CARNATIONS.

The old type of Border Carnation retains its popularity and, undoubtedly, the more modern varieties are considerable improvements on those of, say, fifteen years ago. The National Carnation and Picotee Society are encouraging more and more self-coloured garden kinds rather than purely exhibition varieties, hence the more recent kinds are easier to cultivate and will flourish in any sunny garden.

THE NEW HARDY PERPETUAL "BORDERS."

This new race of Carnation, like *Allwoodii*, is being despised by one Carnation society and rejected by the other. Even the R.H.S. refuses to recognise it; however, the general public, who alone really matter, have taken most favourably to them, and when stocks permit and prices are reduced they will be found in almost every garden because of their hardiness, freedom of flowering from June to October outdoors, fragrance and ease of cultivation. The *Perpetual Border* is a cross-bred race and, like most cross-breds, has almost an excess of vigour. The formation of the flowers is not quite so perfect as with the old-fashioned Border kinds, but all have smooth-edged petals with a delightfully wide range of colours.

They grow freely in any sunny garden. Like all Carnations, they abhor leaf-mould, but love a little old mortar rubble or lime added to the soil.

They may be planted in the garden at any season. Cuttings root readily in sand from plants growing outdoors during the summer months, or layers may be taken. The young plants are, like all *Perpetual Carnations*, stopped at the sixth pair of leaves, and in the garden they grow almost into bushes.

THE BORDER PINK AND ITS HYBRIDS.

The homely, unassuming little *Pink* was once one of the most popular of garden flowers. Innumerable raisers of new varieties competed with each other at the various *Pink* shows, and they had elaborate rules as to the various formations and markings of the flower, until it was lifted right out of its sphere of usefulness as a common hardy garden flower and gradually lost popularity; these elaborate laced exhibition varieties fell out of favour to the public, the little *Pink* sank right back to a very lowly estate, and the old variety, *Mrs. Sinkins*, which was an outcast, alone retained the popularity of its kind. Happily to-day we have many new forms of *Pink* being raised and exhibited, some hybrids, others not. Mr. Herbert and Mr. Douglas have many magnificent seedlings.

Allwoodii, which are half *Pink* and half *Perpetual Carnation*, but which resemble *Pinks* in habit, should restore the popularity of the flower, even without the motherly care of the floral committees, which often lack imagination. The public will not tolerate any variety of *Pink* which is not sweetly scented or lacks a robust constitution, also they must be perfectly hardy. For myself I think the *Pink* should be "perpetual" flowering from spring to winter out of doors.



A TYPICAL PERPETUAL MALMAISON CARNATION.

committees often oppose this hybridisation and introduction of new types, but floral committees, like governments, cannot oppose for long the will of the people, so new and popular races of plants, such as the *Hybrid Tea Rose*, become generally recognised and in course of time almost entirely supplant the older kinds; this in a measure may be sad, but it is after all merely evolution.

The changes which are taking place in the Carnation world to-day could not have taken place twenty years ago, because the *Perpetual* type of Carnation at that time was not sufficiently fixed or developed to have the influence it has to-day; even now the work is done with highly developed seedlings, not the named varieties in commerce.

MALMAISONS.

The old type of blush, *Souv. de la Malmaison*, made popular years ago by the *Empress Josephine*, has become little more than a memory, and the glorious deep pink *Princess of Wales*, which *Queen Alexandra* made the flower of fashion, has also lost favour, simply because the newly introduced *American Perpetual Carnations* supplanted them. To-day, however, we have the *Perpetual Malmaison*, which, defying time and season, is always in bloom. In colouring the varieties of this new type are more beautiful than their predecessors and, in a few years, we shall see the new *Perpetual Malmaison* reigning in its rightful place as the aristocrat of the Carnation world. Its cultivation is much easier and simpler than that of the old type. It is best grown under glass the entire year, with just a little heat in winter, like the ordinary *Perpetual-flowering Carnation*, in fact, the two live neighbourly together, requiring the same cultivation.

PERPETUAL-FLOWERING CARNATIONS.

The present-day varieties are improvements mainly because they grow much more easily

As regard: cultivation, a variety of Allwoodii or Pink which calls for special cultivation and care is not desirable. In my opinion all that they have a right to expect is a sunny position, and any soil can be made to their liking by the addition of a little air-slacked lime or old mortar rubble. Cuttings root readily from June to September, and these when rooted can be planted in the garden at any season.

For myself, I believe we have only just begun to develop the Divine Flower, that all sorts of beautiful new plants with flowers of varying forms and colours will presently be seen. The use of the delightful old-fashioned Sweet William and Alpine Dianthus for interbreeding may well open up almost a new floral kingdom; such is evolution.

Haywards Heath. MONTAGU C. ALLWOOD.

TULIPS IN WALES

EVERYTHING must have a beginning. There was a time when there were no Tulips in Holland. The many millions that can be found there to-day were once represented by a few rows in a kitchen garden! Wales has produced a very famous Prime Minister. Why should she not produce equally famous Tulips? As far as I know there is no reason whatever. She has made a start. There are small Tulip centres at St. Asaph and at Llanfair P. G., where the bulbs thrive amazingly. Anyone who happened to visit the last Chelsea Show might have seen for themselves the truth of my last statement in the exhibit put up by the Anglesey Bulb Growers' Association. As exhibits go at this big Show, it was not a large one, so what gained for it the high honour of a silver cup was not size, but quality. I was immensely taken with what I saw, and had I not been assured by Mr. Watts, who was in charge, that all had been cut from the open just as they were, I should have come away thinking that the big blooms were the result of glass or protection of some kind, together with high feeding. Already those responsible for the management are casting about for more suitable land. I rather think that some which I happen to know from passing it in the train, has been provisionally thought of, if the very necessary item of acquisition can be fixed up. I have twice seen "Holland in Ireland," as the bulb fields of Messrs. Hogg and Robertson at Rush have been playfully named. If I am not greatly mistaken before very long we shall be able to see a "Holland in Wales." There is no earthly reason why it should not be so. Suitable land is there all right. In my opinion it all depends on the human factor. Knowledge, thoroughness, gumption and labour are all equally

as necessary as good ground. Given these the culture of certain bulbs as a business proposition is well within the bounds of possibility. What a

of Holland have adapted themselves to circumstances. To a large extent, however, the best land for Hyacinth growing had almost all gone, and the expense of getting less suitable land into a proper condition was becoming exceedingly heavy, so the change (if it was a little galling to find the special flower of Holland was becoming less and less appreciated by the flower-loving world), had the substantial compensation of a bigger volume of trade than ever. For years we Britishers have been rubbing our eyes. That is how we may look upon what we have done in the past. It is about time we really woke up to the possibilities of our own land. If the purchase of many acres of land in Lincolnshire by some keen and enterprising Dutchman is not sufficient a prod to make us open our



WELSH TULIPS.

change has come over the bulb trade within the last half century! Well within living memory it was all Hyacinths, early Tulips and bunch-flowered Daffodils (*polyanthus Narcissi*) in the ancient home of the bulb-growing industry. Now it is Daffodils of all kinds, May-flowering Tulips and Hyacinths. It is very wonderful how the growers

eyes, what would be? In the past we have not been sharp enough to see the chance the change of taste opened to us in Britain—at least, few of us have been. There have been exceptions. If we had all been Walter T. Wares the history of bulb growing in Britain would have been different. There would have been far more British grown bulbs to-day for the British to buy, and their general quality would have been better. There is no weeping peace when there is no peace any more than in living in a fools' paradise with regard to our home productions. Insular pride cannot turn one goose into a swan. I have bought British grown Tulips from various sources. I regret to say I have found the samples of very varying quality—good, bad and indifferent. This must not be. If we want our own people to buy our home-grown bulbs—if we want this industry to grow larger and become more important—we must offer for sale none but those which come up to the high standard of the Dutch. I believe this is what the Anglesey Bulb Growers have set before themselves in taking up the cultivation of the Tulip. To see for myself the type of bulb they could supply I bought five hundred bulbs of the well known Darwin Clara Butt last autumn. Now that I have both handled the dry bulbs and seen the quality of the blooms these same bulbs have produced in my own garden, I can confidently say that my friends in Anglesey have made a most promising start and that there is no reason why their venture should not be crowned with success. Seeing is believing, except when you are, say, one of the audience at "Maskelyne's." Photographs in THE GARDEN are above suspicion. Tulips in Wales even now are no myth. JOSEPH JACOB.



ANOTHER VIEW.

THE GREAT SUMMER ROSE SHOW

THE success of a flower show usually depends largely on the weather, and although the early morning of June 20 was not too promising, there was a very large attendance at the Summer Show of the National Rose Society held in the Royal Botanic Society's Gardens, Regent's Park. Generally, the day was fine, but there were several very heavy showers which compelled the visitors who had temporarily left the tents hurriedly to seek shelter. But between these showers the weather was pleasantly fine, and the bursts of sunshine were tempered by a cool breeze which added to the comfort of those in the tents and kept the blooms fresh throughout the day. The general quality of the blooms was quite the highest for the past seven or eight years at least, and the entries were also the largest of recent years, and as probably 25 per cent. of these were from new exhibitors, this augurs well for the continued prosperity of the Society.

Silver medals were awarded to the following as being the best blooms of their respective types in the Show. Nurserymen's Classes: Louise Crette, H. P., shown by Messrs. G. and H. Burch; Mrs. George Marriott, H. T., by Messrs. Alex. Dickson and Sons; Mrs. Campbell Hall, T., by Mr. George Prince. Amateur's Classes: Candeur Lyonnaise, H. P., by Mr. S. W. Burgess; Mildred Grant, H. T., by Mr. A. R. Reeves; and W. R. Smith, T., by the Rev. F. R. Burnside.

The increased exhibits and high quality were very noticeable in many of the amateurs' classes. The Champion Trophy was again won by

Mr. H. L. Wettern, Oxted, who had thirty-six excellent Roses. The best were Avoca, Her Majesty, Freda, Hugh Dickson, Mrs. J. Welch, George Dickson, and Mrs. F. Dennison. Dr. R. E. Turnbull, Colchester, was a good second, but while many of his blooms were very large and shapely, they were not so even as the champion collection and they showed more signs of the stress of weather. Dr. Turnbull had exceedingly good specimens of H. V. Machin, Hugh Dickson, Mrs. Edward Mawley and Lyon Rose.

In the class for twenty-four distinct blooms the competition was also quite good and here Mr. John Hart, Potters Bar, won the Edward Mawley Challenge Cup with a very even collection which, however, were a trifle weather-stained. His outstanding sorts were J. L. Mock, Mrs. J. Welch, Mildred Grant, Gorgeous and Mrs. Elisha Hicks. In Dr. Turnbull's second prize set the best were Mrs. George Marriott, a variety that was shown consistently well throughout the amateurs' classes, Rev. F. Page-Roberts and Lemon Pillar.

Of the many good exhibits of twelve distinct blooms the best was by Mr. J. E. Rayer, Worcester, who had especially fine blooms of Candeur Lyonnaise, Mrs. George Marriott, Mrs. Theodore Roosevelt and Mme. Jules Gravereaux. Dr. T. E. Pallett, Earls Colne, ran the winner very close, shewing very good examples of George Dickson, Mrs. Henry Morse and Lemon Pillar. Dr. Pallett was first in the next class, which required three blooms each of eight varieties. His best sets were of Mrs. J. Welch, Mildred Grant and Mrs. George Marriott. Mr. G. Speight, Market Harborough, the

second prize winner, had a particularly good set of George Dickson.

In the section for growers of fewer than 1,000 plants the Challenge Cup was won by Mr. F. H. Fieldgate, Colchester, who, in this very popular class, had beautiful blooms of Lady Barham, Mrs. John Laing and Candeur Lyonnaise. Mr. Fieldgate also won the first prize in the class for three blooms each of six varieties with another excellent exhibit, of which Mrs. J. Welch and George Dickson were superb. Mr. R. de V. Pryor, Hitchin, had the best of many exhibits of nine blooms in the class for growers of fewer than 500 plants, where he staged George Dickson and Mrs. Charles Russell of superb quality. In the class for six blooms, Mr. F. G. Hayes, Dunster, was pre-eminent and he had a grand bloom of Madame Jules Gravereaux. Mr. J. E. Rayer had the best six blooms of any one variety in the same section, and like most of his rivals showed Snow Queen.

The extra classes for amateurs who grow their Roses unaided were very popular and included some praiseworthy blooms, the twenty-four distinct varieties that won the Nicholson Challenge Cup for Mr. G. Speight included splendid examples of Dean Hole, Lady Barham, E. Burnett and George Dickson.

The Metropolitan Classes are arranged for competition among members who grow their Roses within eight or ten miles from Charing Cross and it would seem that practically all varieties can be successfully grown in the "near suburbs." The Williamson Challenge Cup in this section was won by Mr. G. Speight. The outstanding blooms



AN EXCELLENT NEW BUTTONHOLE ROSE, THE ORANGE YELLOW LUCILE BARKER.



SOMETHING LIKE A PALER LADY HILLINGDON—MARY MERRYWEATHER.

were of Dean Hole, J. B. Clark, Florence Forrester, George Dickson, Lyon Rose, Mabel Drew, Mrs. Foley Hobbs, Candeur Lyonnaise, A. Hartmann and Mrs. Charles Russell.

Tea and Noisette Roses were a great feature of the amateurs' classes and here the first prize collections were better than those in the nurserymen's section. The Trophy was won by the Rev. E. R. Burnside with most beautiful blooms of such sorts as W. R. Smith, Mrs. Foley Hobbs, Mme. Constance Soupert and Medea. In the class for nine blooms, Mr. W. E. Moore was first with excellent blooms. Mrs. Foley Hobbs, Auguste Comte, Alex. Hill Gray and Mrs. Myles Kennedy were the very best.

The arrangement of Roses on a space 5ft. by 3ft. was a popular class. The first prize was won by Mr. Geo. Marriott, who used such sorts as K. of K., Lady Pirrie, the Queen Alexandra Rose and Golden Emblem to good effect. Dr. M. Lacroze, who was second, had a heavier but very effective arrangement. Mr. Marriott was also first with twelve varieties of decorative Roses, though the second prize exhibit was better arranged, the vases of Moonlight, Jacques Vincent, Lady Hillingdon and Mrs. Wemyss Quin were very attractive. In the class for a group on a space 3ft. by 3ft., Mrs. Oakley Fisher made a good show with such sorts as Tausendschon, Emily Grey and Crimson Rambler.

NEW ROSES.

The special tent was well filled with new Roses, and there was the usual "waiting list" of enthusiasts at the entrance. Although only two gold medals were awarded, the general merit of the new seedlings was quite equal to that of the exhibits of former years, and it is quite possible that some of the varieties that on this occasion received the secondary award of a certificate of merit will be further honoured in the future.

Alice Amos.—This is one of the best Dwarf Polyanthas (*Rosa multiflora* type) of recent introduction. It might almost be termed a miniature American Pillar, as the colouring is much like that splendid Rambler Rose, though it is a trifle brighter. The flowers are from 1½ ins. to 2 ins. across, and are freely and continuously produced. It is recommended for pot culture and for bedding. Certificate of merit to Messrs. D. Prior and Son.

Atalanta.—This graceful, free-flowering rambling climber was entered for the Cory Cup competition, and while we suspect that its delicate fragrance is not sufficiently pronounced to win that trophy, it has distinct garden merits. It is a clean-growing, vigorous variety which bears large trusses of quaintly beautiful semi-double flowers about 2½ ins. across of creamy apricot flowers which become blush coloured at maturity. Raised and shown by Dr. A. H. Williams.

Bessie Chaplin.—An excellent H.T. Rose which we anticipate will have a great future in our gardens. It is a large, shapely, full bloom, much of La France type, but not quite so silvery a pink shade of colour, though one or two mature blooms approached it. This delightful soft pink Rose is recommended for exhibition and decorative purposes, and we are inclined to add that it should be a splendid sort for standards. Certificate of merit to Messrs. Chaplin Brothers.

Captain Kilbee Stuart.—When, two years ago, this crimson H.T. Rose received a certificate of merit discerning rosarians confidently predicted a gold medal in the near future. It will probably first of all be an exhibition Rose, but will also be of great value in the garden and as cut blooms. It may be termed an improved Edward Mawley, and the stout, broad petals are of glowing velvety crimson within and shaded scarlet on the outside,

It is also delightfully fragrant. The large leaves are of a medium shade of green, a trifle inclined to paleness. Gold medal to Messrs. Alex. Dickson and Sons.

Innocence.—An elegantly beautiful single H.T. Rose of refreshing Tea Rose fragrance. It appears to be very free flowering, and the foliage is a rich dark green colour. The flowers are 4½ ins. across, stout-petalled, and their milky whiteness has just the faintest suggestion of pale blush. The buds are very pretty, of good shape and tinged with apricot. In the centre there is a fascinating little cluster of golden stamens set on short carmine stalks. Certificate of merit to Mr. W. R. Chaplin.

J. G. Glassford.

—This vigorous H.T. Rose has been shown on several previous occasions, when it must have narrowly missed award. It is a long-pointed bloom, fully double and of deep crimson lake colour that does not appear to fade with age. Certificate of merit to Messrs. Hugh Dickson, Limited.

Lady Roundway.—If a vote of the visitors had been taken this most glorious Rose would have had a gold medal, but the judges contented themselves with the lesser award. It is a free-flowering Pernetiana variety of medium size, somewhat flattish shape and delicious fragrance. The buds are heavily flushed with cardinal red, and when fully open the colour becomes a very rich orange lightly shaded with deep rose. Certificate of merit to Messrs. B. R. Cant and Sons.

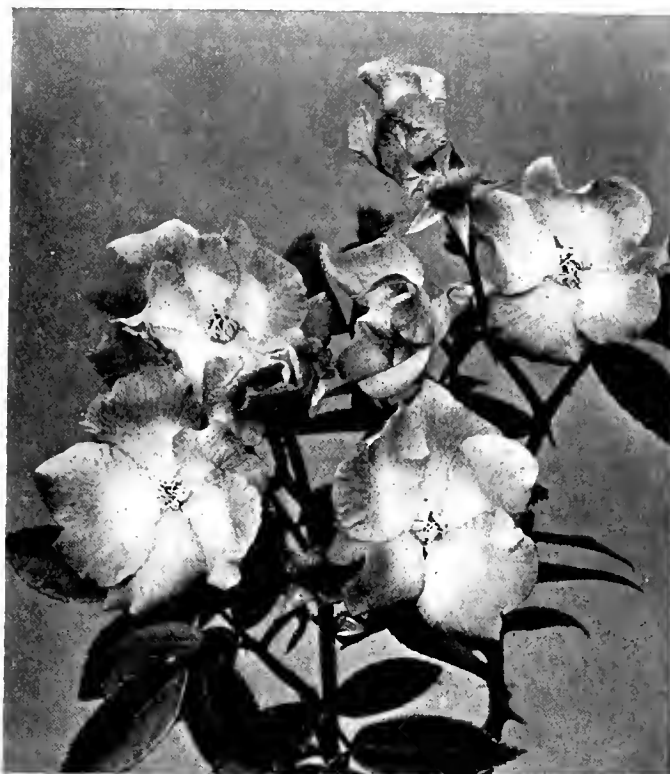
Lady Verey.—In form and habit this H.T. Rose closely resembles Liberty, but the colour is a beautiful rich shell pink. The outer petals are a trifle rolled, and it is a beautiful Rose until quite fully expanded, when it becomes a trifle hollow and so not up to gold medal standard, but it should be a very useful variety for decorative purposes. Certificate of merit to Mr. Elisha J. Hicks.

Lucile Barker.—A dwarf H.T. Rose of not more than medium size, fine shape and a beautiful orange fawn in colour, shading to pale orange. It has good, clean foliage and is of free growth. Shown by Mr. Elisha J. Hicks.

Mary Merryweather.—Briefly this may be described as a paler Lady Hillingdon, for in everything except shade of colour it is very like that popular Rose, and so will be of great value on light and medium soils. The outsides of the petals are often delightfully sun-stained, and this harmonises well with the soft golden colour of the blooms. Shown by Messrs. H. Merryweather and Sons.

Mrs. Harvey Cant.—A large white H.T. Rose, very full in the centre, but when open the outer petals become somewhat loose, otherwise it would be a grand exhibition variety, but it should be of great value in the garden. Shown by Messrs. F. Cant and Co.

Mrs. Henry Bowles.—There can be no doubt as to the great claims of this splendid H.T. Rose to the gold medal, for it is practically everything that a gold medal Rose should be. It received the certificate of merit last year and was excellently shown several times later in the year. The beautifully pointed blooms are of great substance and



THE NEW POLYANTHA ROSE ALICE AMOS MIGHT BE CALLED A DWARF AMERICAN PILLAR.

of warm rosy pink colour lightly shaded with carmine. The outer petals are slightly rolled, and the blooms have a pleasant Tea fragrance. It should be a really good all-purposes Rose. Gold medal to Mr. W. R. Chaplin.

Mrs. Miguel Lacroze.—We are almost inclined to term this a "horrible example" Rose and to agree with the critic who said that from a little distance it appeared to be a Star Cineraria "gone mad." It was shown as a Wichuraiana variety, but is more probably a Polyantha. It forms compact trusses of medium-sized flowers which for a very brief time have magenta crimson borders to the dull white centre, and this colour soon becomes a horrible dull mauve-purple shade. Raised by Mr. William Mowlam and shown by Dr. M. Lacroze.

Pink Delight.—A really delightful free-flowering single Dwarf Polyantha Rose of the best wild rose pink colour and delicious Tea fragrance. It is of perpetual habit and recommended for pot culture and bedding purposes. Shown by Messrs. Laxton Brothers.

Ruth.—An all-purposes H.T. Rose of medium size, fully double and flattish shape. The bright golden yellow petals are heavily flushed with rosy orange and the petals have rolled margins. The foliage is neat and good. Certificate of merit to the Rev. J. H. Pemberton.

[Owing to pressure on space, report on the Nurserymen's and "basket" classes, and dinner table decorations has been held over until next week.—Ed.]

VEGETABLES ALL THE YEAR ROUND

Can I, as an amateur in gardening, grow vegetables to provide my family with a constant supply throughout the year? Yes, easily! provided that you have land, tools, seeds, brains, brawn and determination.

SINCE the art of gardening was first practised there have been learners, and they will come in their battalions as long as the world continues just as surely as the seasons will follow each other in their pre-ordained order. During the period that has passed, the question and answer above have been persistently repeated, and they will be asked and answered until the end of all things mundane. These words are written as a hint to growers of ripe experience that they need not read this article, as they regard it as a bounden, wise duty to read all others which appear in *THE GARDEN*, because it is not published to assist or benefit them, but to suggest to the novice the lines on which he ought to proceed to achieve his praiseworthy aspirations.

THE SIX NECESSITIES.

In the curt answer given above to the leading question which demanded it there are set forth six points, and it is essential that the aspirant to honours shall look upon them as real necessities. If a further question were asked to determine the order of importance there would be some slight change and we should find them running as follows: Land, brains, determination, tools, seeds and brawn, and while the first, fourth, fifth and sixth can be purchased or hired, the second and third must be provided by the individual. At the same time let it be said that the probabilities of supreme satisfaction are more pronounced when all the necessities are furnished by the individual, particularly so the brawn or muscle required to carry out the mechanical processes and which is, unfortunately, the one that is most commonly bought or hired, often perforce of circumstances over which the individual has no control. Without disparaging skilled hire in the smallest degree, one has not the least hesitation in affirming that the hired labour at the command of amateur gardeners is so far from being skilled that he who can provide the brawn to do all the work himself will find his chances of reaching his goal immeasurably improved, indeed, it may be said that the desired result is assured.

Land is placed in the forefront for the simple reason that without it brains and determination would be valueless; brains stand in the second position because they must be schooled to control all the other necessities, including the management of the land; and determination ranks third because obstacles and adversities are certain to be met and the firmest determination will be needed to overcome the former and to accept the latter in proper, philosophical spirit.

In addition to the necessities, there are accessories which are desirable without a shadow of a doubt, but their absence is not so great a desideratum as to compel one to accept the supposed fact that success is impossible of achievement. For instance, a greenhouse and one or two frames will render the task an easier and surer one, but if they are not present they can be done without they are not, then, necessities. And the same might be said of other things, but it would serve no useful purpose to enumerate them and would, therefore, lead to waste of space.

THE TIME TO START.

The actual time of commencing on our interesting, health-giving and food-producing work is not of substantial moment. There is something to be done in every month, aye, every week, of the year,

but December and January will usually be found the least favourable, though much may be done then by those who grasp instantly the opportunities that the variations of the weather afford, with October and March as the most favourable since then much positively must be done, no matter whether one is working in an established garden or is setting out upon the great task of making a new one. However, we find ourselves in July with its seasonal duties, and this month shall be, therefore, our base, and our object the production of vegetables for autumn, winter, spring and early summer. In many gardens the only seed of substantial importance sown in July is Cabbage to yield cuttings in spring and summer of next year, but there are many other kinds which demand recognition during this month and August, as will be shown in a later paragraph.

AREA OF LAND REQUIRED.

The size of the garden is generally rigidly governed, but were it not so it would be impossible to define a rule stating the area necessary to supply a family with vegetables all the year round. It is obvious that the number in the family must be a governing factor, and, further, the capability of the cultivator must have close consideration, since all of us who are familiar with amateur gardeners know that there is a man here and there who will produce double the quantity of excellent produce that his neighbour will do, notwithstanding that they may be working under identical conditions of soil and other natural conditions. Then, again, some soils have infinitely greater latent capacities than have others, and the man who finds the way to draw these out to the utmost limit is clearly in a superior position to the man who fails so to do.

Speaking in the broadest sense one would regard 10 rods devoted exclusively to vegetables as the minimum area, but this will not be enough for a large, growing family, because it will be impossible to find space for a sufficient bulk of keeping Potatoes. Early or new Potatoes will be a simple matter, and space will be available for all other kinds; but the weight of Potatoes demanded by a family of, let us say, six persons, including four well on the up grade, is surprisingly large and cannot be managed in the area specified. The amateur who has 15 rods to 20 rods of cultivable, naturally suitable land ought to be able, and indeed will be able, to produce an ample sufficiency for ten or twelve people; if he has to cater for a bigger number the chances are that he will deem it wise to place at least a proportion of the mechanical labour in the hands of someone else, and immediately he is compelled to take this course he will find that his return to the square rod will fall by from 20 to 30 per cent.

JULY AND AUGUST OPERATIONS.

Since it is obvious that there must be a "carry over" from one year to another in the crops of a garden, no matter in what month a start is made, we shall appropriate to ourselves the early Potatoes, Peas, Onions, Carrots, Cauliflowers and other kinds which are coming on, and plant next spring to provide at least equal compensation to the succeeding season. By taking this step we shall have the advantage of the seedlings of Winter Green vegetables sown at some date between March and the middle of May, and all of which can be successfully planted out during the present month and August.

The Borecoles, Savoys and very late Brussels Sprouts (if there are any) will be allocated to a piece of ground that has been cultivated to its utmost depth and which is known to contain a plentiful supply of readily available food; showery weather will be chosen, if possible, and failing it the immediate sites to be occupied will be heavily soaked with water on one evening and the plants will be moved to them on the following day, packing the soil firmly to the roots, which should go in undamaged. It is not much trouble and always good policy to draw the roots through a thick sludge of soot, lime, soil and water, for it may arrest subsequent enemy visitations and invariably aids establishment.

Sprouting Broccoli and also those flowering varieties to come in by the middle of December must be treated in the same manner, but varieties of the latter for use from midwinter onwards to late spring should be planted on the autumn Onion bed or on the site of a grubbed Strawberry plantation, neither being prepared in any other manner than by hoeing completely to remove every weed. A handfork or a trowel is far better than a dibber for planting as a general rule, but the later sorts of flowering Broccoli should always be bored for, and preferably with an iron-shod tool, and the soil must be packed to them just as hard as the surrounding level, the direct object being to encourage so sturdy, stocky, hardy a growth that it will not succumb during very bad weather, as much too frequently happens with plants set out in the ordinary way in well worked ground. Between the middle of July to the end of August seeds of many kinds can be sown with excellent prospects of success, but perhaps we ought to regard Cabbage for spring as the most important, since it is unquestionably one of the most highly favoured of all vegetables. There are many varieties from which choice can be made, but the seeds must be bought from an absolutely reliable source, or it is well within the bounds of possibility that more than half the plants will run to seed instead of forming hearts. If it can be managed, some flaky material, such as leaf-mould rubbed through an eighth of an inch riddle, should be incorporated in the top 8 ins. of the seed beds, as the roots of the seedlings will cling to it very tenaciously and easy, certain transplantation is then practically assured. Distribute the seeds very thinly in drills about half an inch deep and 6 ins. asunder and cover in with fine mould. Given thin seeding, little thinning out will be demanded, but what is necessary must be commenced directly the youngsters are big enough to handle; a second sowing of seed should always be made three weeks after the first to ensure that there shall be plants so thrifty and sturdy that they may be relied upon to pass through the winter in perfect safety.

In the case of a garden which was planned out early in the year it is doubtful whether there will be much space available, but in no circumstances ought a row or two of a dwarf, naturally fast-podding Pea to be omitted, while one or more rows of a Dwarf French Bean will give welcome pickings in due course. There will have been legislation for a bed of an early Carrot, which will give many sweet dishes later on and there is no danger of losses owing to the fly. The Carrot ought to go in before the end of this month, but rather than miss them sow in August, and add such salad vegetables as Radishes, Lettuces and Mustard and Cress; autumn Onions, Turnips, Beetroots, if they are especially desired; Spinach in two sowings, one at the middle and the other at the end of the month; and Perpetual Spinach or Spinach Beetroot, which will give a green dish in spring when everything else fails. W. H. LODGE.

MANY INTERESTING NOVELTIES AT VINCENT SQUARE

THE new plants were the centre of attraction at the R.H.S. Hall on June 27 when, as well as many awards of merit, two first-class certificates were awarded. In addition to the beautiful vase of *Rhododendron discolor* from Kew, many trusses of this Chinese species were shown by Dame Alice Godman, and these illustrated an interesting variation in the seedlings. In the Horsham collection the colours ranged from an almost paper white to nearly the pink of Pink Pearl, and all were very beautiful. Besides this colour variation the fragrance seems elusive; some trusses possessed the gift, which was absent in others. A similar thing occurs at Kew, where two specimens grow side by side. The flowers of one are deliciously fragrant, while the other bears scentless blossoms. The species seems to be quite hardy, but shade from direct sunshine is essential. Dame Alice Godman also showed sprays of the elegant white-flowered *Styrax Wilsoni*.

Other interesting shrubs included a good batch of *Kalmia latifolia* by Mr. T. Lewis, who told us that these were some of the bushes that Queen Mary admired so greatly at Ascot and commanded a dinner-table decoration to be made of cut sprays from some of them.

Mr. Charles Turner had some beautiful varieties of *Philadelphus*, and also sprays of *Tilia asplenifolia*, *Ligustrum Ibota* in full bloom, *Ochna*

multiflora and *Neillia (Spiraea) Torreyi* bearing a quantity of their interesting fruits.

Border flowers were shown in great abundance and of much better quality than might have been expected considering the long drought. *Delphiniums* predominated and were represented by wonderfully fine spikes of all shades of blue and many of mauve. In Kelway's collection the very best was James William Kelway, which has very large, white-eyed, dark purple flowers. *Smoke of War* was also very striking, while of their pale blues the best were Gaby Deslys, Sir Alfred Keogh and Geraldine Kelway. Of the many *Delphiniums* shown by Messrs. Blackmore and Langdon, *Dusky Monarch* and Robert Cox of the dark sorts and Queen Mary, Mrs. Townley Parker and

were a couple of very desirable Giant Thrifts. *Verbena chamaedryoides* in a collection by Messrs. Waterer, Son and Crisp was dazzling in its scarlet colour, but it is, unfortunately, not quite hardy, though well worth the trouble of wintering in a frame.

A pretty water garden was made by Messrs. Hillier and Sons, and it was surrounded by many



THE HUGE AND BRILLIANT ANEMONE GLAUCOPHYLLA.



THE BRILLIANT BLUE DELPHINIUM MRS. F. T. NEIGHBOUR.

Queen of Bath of the paler blues were very charming. Messrs. R. H. Bath, Limited, and Mr. W. Wells, Jun., also had many beautiful *Delphiniums*.

The first herbaceous *Phloxes* of the season were displayed by Mr. H. J. Jones, who had excellent plants in 5in. pots. The most noteworthy sorts were Homeland, H. J. Jones, Florrie Freeman, Selma and John Meakings.

Of other border flowers the garden Pinks shown by Messrs. B. Ladhauns, Mr. Clarence Elliott and Mr. M. Pritchard were very beautiful. *Oenothera speciosa grandiflora* was also excellent, and in *Armeria cephalotes gigantea rubra* and *A. Bees Ruby* there

was suitable plants. In the pool there was a selection of such good *Nymphaeas* as Gladstoniana, Escarboucle, *Mariacea chromatella*, and *atropurpurea*. A tall bush of *Hydrangea Sargentiana* was handsome in its large woolly leaves, and was well set up with flower-buds. Messrs. William Cutbush and Son had a well designed little rock garden which would be suitable for a garden of quite modest dimensions.

English Irises were largely shown by Messrs. Barr and Sons, who had a large number of excellent named sorts. Messrs. Cheal and Sons also had English Irises and, like Messrs. Carter Page and Co., also showed some early *Dahlia* blooms. With *Delphiniums* and many other border flowers Messrs. G. Bunyard and Co. staged brilliant spikes of *Iris Monnier* and *I. ochroaurea*.

As though in anticipation of the Regent's Park Rose Show later in the week, Mr. William Paul, Messrs. Frank Cant and Co. and the Rev. J. H. Pemberton had good collections of *Roses*.

Collections of greenhouse *Carnations* were staged by Messrs. Allwood Brothers and Mr. C. Engelmann, while Mr. James Douglas had some of his splendid Border varieties, of which the rich yellow *Sunshine* found many admirers.

A very large collection of *Sweet Peas* was delightfully arranged by Messrs. Sutton and Sons,

who shewed generous quantities of such valuable sorts as Picture, Gladys, Orange Perfection, Doris, Hawlmark Pink, Adelaide, Mrs. Tom Jones and Doris Usher. Messrs. R. Bolton and Son again shewed fine blooms of Comrade Tangerine, Elsie Dene and Tangerine Improved.

Stove plants were more numerous than usual, and Messrs. L. R. Russell, Limited, had a splendid collection, including Pitcher plants, Crotons, *Medinilla magnifica*, *Dracenas*, *Clerodendron Balfouriana* and *Tabernaemontana coronaria*. A large number of *Caladiums* and good plants of *Streptocarpus* were shewn by Messrs. J. Peed and Son. An excellent strain of *Streptocarpus* was displayed by Messrs. R. and G. Cuthbert. A magnificent amateur collection of Crotons was arranged by Mr. J. W. Barks, gardener to Mr. A. P. Brandt, Bletchingley, Surrey. These were all splendidly grown and beautifully coloured. Messrs. Bastin and Son again shewed some of their admirable double-flowered tuberous *Begonias*, and with many other sorts included the beautiful salmon-tinted variety *Lady Bell*, for which they received an award of merit at the previous meeting, though it was erroneously attributed to another exhibitor. Mrs. W. Churchill, Mrs. W. Wilson and *Lady Diana Cooper* are also splendid sorts.

The only fruit exhibit was a large collection of heavily fruited pot Cherries by Messrs. T. Rivers and Son. The varieties included the new *Peggy Rivers*, *Elton*, *Early Rivers*, *Governor Wood* and *Frogmore Bigarreau*. From the *Wisley* trials the R.H.S. sent up plants of the *Broad Beans* to which the sub-committee had given awards of merit on the previous day. The plants were all heavily fruited, the varieties being *Bunyard's Exhibition*, *Broad Windsor Selected*, *Champion Longpod*, *Green Leviathan*, *Selected Hang-down*, *Shirley Longpod*, *Multiple*, *Improved Giant White Wonder* and *White-eyed Early Large*. Messrs. Sutton had pot plants of new dwarf types of *Broad Bean* obtained by crossing Sutton's *Longpod* with *Beck's Green Gem*.

NEW AND RARE PLANTS.

Anemone glaucophylla.—This was decidedly the "flower of the show," and if a popular name is needed, might well be termed the *Clematis-flowered Anemone*. Unfortunately, it is a tender species, otherwise everyone with a garden would wish to grow it. As the plant on view was grown under glass, it is just probable that the branching flower-stem was slightly drawn, but it was almost 3ft. high and bore a large, nearly round, five-petalled bloom of glistening satiny mauve colour and fully 5ins. across. The stout, glaucous, pinnatifid leaves have rather long, hairy stalks, and form a rosette about 2ft. in diameter. It is one of Mr. Forrest's introductions. First-class certificate to Colonel Stephenson Clark.

Rhododendron discolor.—This fragrant and handsome Chinese species has already received an award of merit, and now has the highest award. The large, compact trusses were composed of big, nearly white flowers, which have pretty, slightly crimped margins. At Kew there are two large bushes in full bloom, and they are exceedingly decorative. First-class certificate to the Royal Botanic Gardens, Kew.

Pink Prichardii Donnicketti. A brilliant, free-flowering little garden Pink. The outer parts of the petals are stippled with rich crimson, and there is a broad maroon zone. Award of merit to Messrs. M. Prichard and Son.

Æsculus indica.—The beautiful Indian Horse Chestnut is comparatively rare in gardens. It is a native of the North-West Himalayas, and quite a hardy tree. In its native habitat it attains a height of 100ft. At Kew a small tree near

the glasshouses (T range) is particularly beautiful just now. The erect panicles are between 12ins. and 18ins. long, and more cylindrical than those of the common species. The flowers are milk white in colour, and the shorter pair of petals have a rosy carmine blotch at the base. The large shining deep green leaves are very handsome. Award of merit to the Royal Botanic Gardens, Kew.

Begonia Aurora.—An ideal double-flowered tuberous-rooted *Begonia* which will probably be equally as good for summer bedding as for pot culture. The perfectly shaped flowers are of rich yellow colour very lightly edged with rosy apricot, which shading also appears on some of the older petals. Award of merit to Messrs. Blackmore and Langdon.

Begonia Eunice.—A very charming and floriferous basket *Begonia*. The pendulous flowers are of a soft pink shade. Award of merit to Messrs. Blackmore and Langdon.

Begonia Stella.—This is another beautiful and floriferous basket *Begonia* and of vivid rosy cerise colour. Award of merit to Messrs. Blackmore and Langdon.

Begonia Venus.—Yet another lovely and free-flowering basket *Begonia*. This is of milk white

staging accurate inspection was impossible, but from what we saw the specimen seemed more like *Cornus Nuttallii* than *C. capitata*, which is the newest name for the sub-evergreen tree known as *Benthamia fragifera* in Cornish gardens, where it is so much at home as often to reproduce itself from seed around the parent. In Cornwall it is mostly prized later in the year when loaded with its crimson seeds, and is often known as the Strawberry Tree. The "flowers" are really bracts, the true flowers being minute and crowded in a more or less circular mass. Award of merit to Mr. E. J. Lucas.

Delphinium Decorator.—This highly decorative variety might well have received an award even though the centre spike was over. It has a freely branching habit. The individual flowers are smallish, semi-double, star-shaped and of intense blue colour. Shown by Mr. F. W. Smith.

Delphinium Mrs. F. T. Neighbour.—A very beautiful spike of large, handsome blooms. They are of sky blue colour lightly flushed with dull mauve towards the centre, which has a white eye. Award of merit to Mr. F. W. Smith.

Gaillardia Knight Errant.—A round, well formed bloom of rich yellow colour with a



THE SILVERY WHITE MOCK-ORANGE, PHILADELPHUS COUPE D'ARGENT.

colour lightly flushed with apricot at the base of the petals. Award of merit to Messrs. Blackmore and Langdon.

Buddleia alternifolia (See page 292).—When shown by Sir Harry Veitch at the previous meeting we greatly admired the long, graceful sprays of silvery lavender flowers, and were surprised that it failed to receive recognition, and since then we have seen large bushes in flower which increased our opinion of its merits. Award of merit to Mr. Lionel de Rothschild and the Hon. Vicary Gibbs.

Campanula rotundifolia Jenkinsii.—This elegant and free-flowering variety was one of the many plants of merit raised by the late Mr. E. H. Jenkins, who for many years contributed such admirable articles on hardy flowers to THE GARDEN. *Campanula Jenkinsii* is a delightful plant for the front of the flower border or for the lower parts of the rock garden, where its erect, slender spikes of numerous white, bell-shaped flowers would be effective. Award of merit to Mr. H. J. Jones.

Carnation E. G. Quick.—A border *Carnation* of good shape and uncommon colouring which may perhaps be described as a dark slaty heliotrope. Award of merit to Mr. James Douglas.

Cornus capitata.—The sprays had flagged so badly that in the congestion near the new plant

small, distinct scarlet zone. Award of merit to Mr. G. R. Downer.

Gaillardia Yeoman.—This is apparently from the same strain as the above, as the colouring is almost identical, but the flower is larger and has more pointed petals. Award of merit to Mr. G. R. Downer.

Philadelphus Coupe d'Argent.—The silvery white, chalice-shaped flowers are over 2ins. across and have a fascinating touch of pale rosy lilac at the base which suggests *roseo-maculatus* parentage. The blooms are freely borne on graceful sprays, making it a charming and desirable variety. Award of merit to Sir William Lawrence.

Rose Jacqueline.—A very beautiful Briar Rose. It is a full-petalled single Rose of bright rose pink colour with golden yellow at the base of the petals and a nice cluster of golden stamens. It appears to be a very free-flowering variety. Award of merit to Messrs. William Paul.

Cherry Peggy Rivers.—This seedling dessert Cherry is much like *Governor Wood*, but, unlike that sort, the fruits do not split, and this was the chief reason for the award. The seed parent was stated to be *Bigarreau Gros Cœur*, and it has a sweet flavour. Award of merit to Messrs. T. Rivers and Son.

CORRESPONDENCE

THE YELLOW WOOD.

THAT handsome tree, *Cladrastis tinctoria*, has blossomed very freely at Kew during the present summer, though usually few flowers are produced. A native of the south-eastern United States, the Yellow Wood forms a large-headed tree up to 60ft. high, with handsome pinnate leaves 9ins. to 12ins. long, composed of, usually, seven or nine large oval leaflets. A peculiarity of the leaves is that the base of the leaf-stalk is swollen and covers the axillary bud in the same way as the Plane. The white, pear-shaped flowers are borne in pendent panicles 9ins. to 1ft. long, from the points of the shoots, which remind one of *Laburnum* inflorescences of white flowers. Although the tree does not flower regularly, it is worth growing for the sake of its ornamental leaves, which turn to an attractive golden hue before falling. The wood of this interesting tree is bright yellow, which accounts for the common name.—W. L.

THE PERPETUAL-BORDER CARNATION.

I WAS much impressed at York Gala with the Perpetual-flowering Border Carnations in Messrs. Allwood's exhibit. These were shown in larger quantity and greater variety than before. This type, if it upholds its present promise, is destined to make a name, and if it prove as hardy as the old Border Carnations and more free-flowering, will make the latter look to its laurels. As regards hardiness, Mr. Edward Allwood assures me that the plants have stood the test of the last three winters unprotected on cold, clayey soil in Sussex, and I have found them quite as hardy as the ordinary Borders during the past winter. Still, I should like to grow them through another winter before arriving at a definite decision as to their absolute hardiness. In beauty of form, soundness of calyx, colouring and fragrance, however they are superb, and of the varieties already in commerce the self shades of purple, cerise, rose, crimson and maroon are very fine, and the daintily marked kinds, such as Highland Lassie, Sussex Maid and Sussex Perfection are as pretty as any of the Picotees. New colours are being evolved. I am growing for trial many beautiful scarlets. There is a variety almost identical in colour with the famous Edward Allwood, several shades of red, a rich vermilion, and quite recently there appeared in a batch of seedlings the first pure yellow, exactly similar in colour to Border Yellow, but larger and of finer form.—NORMAN LAMBERT.

AEROPLANES AND INSECTS.

I WAS "vastly intrigued," as writers in the newspapers so picturesquely put it, by the story of an aeroplane attack on myriads of caterpillars in a fruit plantation in Kent. The whole idea of pitting the august aeroplane against the insignificant insect opens out immense and far-reaching possibilities. One ventures to think that after the remarkable success of the present experiment—there was scarcely a live caterpillar left after about half an hour's dressing—the old-fashioned methods in which petrol, paraffin, horse and man driven appliances with liquid dressings are employed will be hopelessly out of date in a short time. Manufacturers of such-like machinery will be directing their abundant energies towards the production of aeroplanes fitted with apparatus for distributing powders, and mayhap liquids, that will destroy all the "bugs" to which the fruit and vegetable crops of the country are heir; horticultural chemists will spare no intensive efforts to provide

compounds which, containing no arsenic or other poison, cannot possibly involve risk of injury to any other form of life than insect enemy; while entomologists will direct their scientific attention to the education of these insects to the end that coming generations shall do most, if not all, of their feeding on the upper surfaces of the leaves and twigs instead of, as now, seeking positions where they are effectually screened from above and by no means easy to reach from below, even by skilled men working actually beneath the branches. One must confess to a strained feeling at the thought of clouds of arsenical or other poisonous dusts floating about in the atmosphere,



THE FINE RHODODENDRON CYNTHIA IN A TUB.

which, if they will not kill off odd superfluous members of the animal kingdom, will undoubtedly "make 'em sneeze a bit." By the way, the firm which fitted the distributing apparatus to the aeroplane used ought to get a good advertisement out of it, or perhaps the half ton of stuff was pitched out by the bucketful!—W. H. LODGE.

THE KENTUCKY COFFEE TREE.

THOUGH a distinctly ornamental tree, the Kentucky Coffee (*Gymnocladus canadensis*) is by no means common in our gardens. In view of this it is particularly interesting to find a tree flowering in a comparatively small garden at Kaybough, Kew Gardens Road, Kew. Purchased when the tree was twenty-two years old from a Kingston nursery in 1878, and planted in its present position by the late Mr. Charles Wright, it is now approaching 60ft. in height. The tallest tree in the British Isles is said to be the specimen at Claremont 60ft. in height. As a rule the trees of the Kentucky Coffee are dioecious, the tree flowering at Kaybough being staminate. More

interesting than attractive from a floral standpoint, Mr. W. J. Bean describes *Gymnocladus canadensis* in his book as: "In its foliage perhaps the most beautiful of all hardy trees." Mr. Wright's daughter, Miss Wright, the present owner, is justly proud of beautiful specimens of *Taxodium distichum* (which produced cones freely last year), *Ginkgo biloba* and *Ailanthus glandulosa* planted at the same time.—A. O.

RHODODENDRON CYNTHIA.

I AM enclosing you a photograph of a *Rhododendron Cynthia* which I had when it was very small thirty-five years ago and have grown in a tub ever since. It had 335 trusses all in perfect condition. The photograph was taken for me by the Photocrom Company, Limited, and I thought the picture might interest your readers.—M. M. SAMUEL.

[The picture well illustrates the value of *Rhododendrons* for the town garden and the beauty of that grand old variety *Cynthia*, which has vivid deep rose flowers. In an article on another page, Mr. Gomer Waterer calls attention to the merits of many of the old hybrids which are not now being planted to the extent they should be.—ED.]

"AFFECTED" GARDENS.

A RECENT visitor who knows naught of "Anne A.," but is herself a very keen "amateur" gardener, remarked to a mutual friend (who was taking her round my garden and gathering a "country garden" posy for her *en route*) "I do like this garden; it is so quaint and simple and unaffected." I—lying low—overheard, and it set me wondering.

Are some of our modern carefully planned gardens "affected"? Will the next generation jeer at and despise them as we mostly scorn Victorian "bedding" borders (though there are some places—public parks and the like—where I think "bedding" seems right)? It's really rather an appalling idea, isn't it? I myself am much in love with little "formal" gardens informally planted, especially for town and small villa gardens, where the little "lawn" is nearly always more or less a miserable, threadbare failure. Pondering the matter and thinking of the most delightful gardens I have known, I must own they were *not* "planned" all at a time, but grew bit by bit as fresh ideas and "wants" occurred to their owners. Can it be possible that our present-day up-to-date "planned" gardens (awful thought!) are akin to those rooms full of "period" furniture, which never please me, showing, as they generally do, such a lack of originality, courage and individuality in their proprietors and recalling all too vividly the "showrooms" of large furniture shops?—ANNE AMATEUR.

IRIS NOMENCLATURE.

AT the Iris Conference held at the R.H.S. meeting on June 7 one of the points raised was the desirability of the regulation of Iris names. This was emphatically advocated by almost every speaker. Mr. Dykes, Mr. Wister, M. Mottet and others agreed that the duplication of names was to be strongly deprecated, and various suggestions were made for the purpose of ensuring that in the future no new Iris should be sent out under a name that has already been used. The American Iris Society have compiled a list of names under which Irises have been distributed from time to time, and it was proposed that the English and French raisers should so far as possible consult this list and make it a basis of a permanent record, so that duplication should not occur in the future. On opening THE GARDEN for June 24 the necessity for some such arrangement becomes very apparent.

In 1914 we received at Colchester some plants from M. Denis of Balaruc-les-Bains under the name Iris *Ochracea-cerulea*. This variety was shown by Mr. W. R. Dykes on June 7 and received the award of merit. According to THE GARDEN, someone has now decided to rechristen this variety "Sunset." In the first place, has anyone other than the raiser any authority for altering the name given by him to one of his productions? Secondly, if it was considered necessary to alter the name, surely some suggestion would be made by the Floral Committee of the R.H.S. when considering the flower for award, and the natural course would be for them to certificate the plant on its merits with the suggestion that the raiser be consulted regarding the alteration of the name. As far as one can gather, no suggestion of this sort was made. Thirdly, on referring to the Check List published by the American Iris Society, I find there is already an Iris registered by the Society under the name of Sunset. If therefore this Iris, after having been in existence in English gardens for eight years as *Ochracea-cerulea* and having been certificated by the R.H.S. under that name, is now to have this name changed in such a casual manner, nothing but confusion can be the result, especially if the substituted name is that of another Iris already in cultivation. It is certain that some firms will adhere to the only name to which it is at present entitled, and we shall therefore have this variety being distributed to the public under two distinct names, one of which is already borne by another variety.

There is also a slightly misleading statement in the same issue of THE GARDEN, namely, that it is "to be distributed this autumn." As it was in cultivation in England in 1914 and registered by the American Iris Society as having been distributed in 1919, this statement is a little misleading.

Certainly *Ochracea-cerulea* is cumbersome and somewhat misleading. The first thought it conveys to one hearing the name for the first time without seeing the plant is that it may have something to do with two species or varieties that have nothing to do with the section to which it belongs. For instance, Baker gives the variety *Ochracea* of Regel as a form of *I. iberica*. I notice even the American Iris Society seems to have lost sight of this fact, as it has registered the name of this tall bearded variety in its "standardised plant names" as *Ochracea*. It may be that in the effort of the Society to eliminate double-barrelled names it has unconsciously erred in the duplication of varieties under the same name.

Certainly something definite and authoritative would seem to be necessary, and if the name is to be altered it should be done in such a way that the new name can be universally accepted as correct. In the meantime we have only one authoritative name for it, and that is the one

under which it was certificated by the R.H.S. and introduced by the raiser.—GEO. DILLISTONE.

IRISES FOR TOWN GARDENS.

I AM sending you a photograph of the Iris walk in this garden in case you care to reproduce it. The Irises were planted two years ago; this is their second year of blooming. They are very fine—all up-to-date varieties—and were supplied by Messrs. Whitelegg and Co. and Messrs. Waterers. I think you may care to shew what can be



AN IRIS WALK IN A TOWN GARDEN.

done with Irises in a town garden.—CHARLES H. RICE, *St. Albans*.

A REPROACH TO THE LAND.

RETURNING from France the other day I spent a few days at Folkestone for the first time, expecting to see something of the flowery beauty of Kent, "the Garden of England"! So I duly explored the walks under the Lees and the partly planted paths near the sea as far as Sandgate. Here and there where the natural wild growths of the undercliff still remained there are oases of grass and wild flowers, such as *Convolvulus arvensis*, where some charm still lingers. But what shall I say of the rest? Shall I be believed, I wonder, if I say the rest is simply a wilderness of asphalted paths, *Euonymus* and *Privet* bushes, with here and there a garish patch of wild Mustard or a flourishing colony of Nettles? It is not possible to exaggerate the poverty, the misery and the neglect of the so-called gardens on this strip of South-east Coast, where surely something attractive might be made. At some period a certain quantity of Pines and Sycamores have been planted which present the most sorry sight. Never did I see so many half-dead trees and shrubs, never did I see such a deadly uniformity of stunted Pines and Sycamores. The latter were in a few cases green and flourishing in leaf this fine season, but even many of these have half-dead tops and dead branches that are most disfiguring and depressing! Underneath, in their shelter, I looked for at least a few flowering shrubs to diversify the bare earth, but *Privet* and *Euonymus* alone rewarded my search. I will admit there are some Elder bushes occasionally

and I did see one very miserable *Aucuba*, but not one of the most useful and indispensable seaside shrubs is to be seen, only bare earth and asphalted paths and wide roads! Are the Kentish gardeners and authorities aware how deadly dull and unattractive they have made their seaside walks? Have they never visited other places where the cliff sides are a mass of attractive shrubs and bright flowers that need little attention from year to year? Is Folkestone so much more exposed to bitter sea winds than

other places that it cannot produce a single flower or pretty shrub that shall catch the eye of the seeker after sunshine and beauty? To judge by its so-called gardens, Folkestone must surely be the coldest and most wind-swept place in the British Isles! There is not an *Escallonia* bush, not even a *Veronica*, so very ubiquitous in most seaside places. Not even the hardy and decorative *Olearia Haastii* is to be seen anywhere, nor did I see a *Laurustinus*, or even a *Laurel* or *Bay Tree*. In private gardens by some villas an *Hex* or two shewed what might be done, but as a rule Elder bushes, wild Mustard and Nettles held undisputed sway the whole length of these dreary asphalted roads.

Accustomed as I am to the *marvellous* (and I say it with intention) gardens that are to be found on our coasts elsewhere, to say nothing of those in other lands, I think the Men of Kent should rise up in arms and demand that one of the principal passenger ports of England should shew a more attractive face to its many visitors. Let them go to see what is done elsewhere, and if they do not return fired with the desire to mend their ways, they will deserve the reproaches of all men who love their fair country. As an instance of what has been done on an exposed coast, let them go to Scarborough, where there are literally miles of gardens planted on the cliffs, rich in Roses, in trees, in flowering shrubs, and many a flowery path down to the sea. Surely Folkestone can do as much, and rival, if not surpass, the northern gardens that are so very carefully ignored in the advertisements so liberally distributed in all parts of the kingdom. Let it be no longer deserving the name of the Land of Neglect!—E. H. WOODALL.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Early Potatoes.—Where these are ready for lifting and are occupying ground in demand for crops of Turnips, etc., they should be lifted and removed to a cool store. If it is decided to keep any for seed purposes, they should be spread out singly so that they may thoroughly mature before being removed into storage.

Shallots.—As the foliage turns yellow and shows signs of decay the roots should be lifted, and after a thorough drying and ripening in the sun, the bulbs stored in a cool, dry, airy room.

Runner Beans.—If the weather proves hot and dry during the early cropping days of these Beans, the plants will derive immense benefit by several copious syringings and waterings, preferably during the evening. Follow this up with a mulching of well rotted manure if possible, or if this cannot be arranged keep the ground lightly hoed to prevent caking of the surface soil and to prevent a too rapid evaporation.

The Flower Garden.

Biennials sown some few weeks ago should be pricked out as soon as convenient, especially if the sowing was done thickly. It is not advisable to put the young plants out into a too rich compost, as growth made under such conditions is not of the best for withstanding hard weather later on. A site having a little shade during the middle of the day is the best for Canterbury Bells, Forget-me-nots and Aquilegias, and all rows should be spaced so that the hoe can be frequently plied between them.

Crocuses.—Where these are appreciated corms of the autumn-flowering and winter-flowering kinds should be planted as soon as possible. By a careful selection of varieties flowers may be had almost continuously from August until March, but unless the positions chosen for some of the winter-flowering ones are somewhat warm and sheltered, unfavourable climatic conditions will soon mar them. One of the best and most reliable autumn-flowering kinds is *C. speciosus*. As a general rule Crocuses like shallow planting, but it will be found better to plant this variety rather more deeply.

Bulbs in Grass.—If not already scythed over, the foliage of these, which looks somewhat untidy, should receive such attention. This operation will also give sun and air an easier access to the bulbs.

Fruit Under Glass.

Late Grapes.—Careful thinning is more important in late vineries than in any of the earlier houses, chiefly because of the necessity that all berries should be allowed proper room for development and to ripen thoroughly, without which it is almost impossible to keep them in a satisfactory manner. Attend to the stopping and regulating of the growths as necessary, and endeavour if possible for all late black Grapes to have a regular covering of foliage over the house, but avoid too dense a covering for late white ones. Should the Vines show any signs of exhaustion by feeble growths or unsatisfactory swelling of the berries, make doubly sure that overcropping is not being carried out. This and root dryness are the Vine's most deadly enemies, and although such errors of culture are rarely met with among growers of experience, they are probably the beginner's most common mistakes.

The Hardy Fruit Garden.

Late Strawberries will need some assistance following the severe tax which has been placed upon the plants by the early drought and great heat and by the most unfavourable period of growth after cropping last season. Where it can be arranged to give the plants a couple of thorough soakings with weak farmyard manure, it will be well repaid, and it will be also advisable to reduce the number of fruits upon heavily set trusses. The layering of late varieties should be proceeded with as suitable runners become available.

General Work.—Attend as necessary to the protection of Gooseberries, Currants, Raspberries, etc., and if not already done, see that all superfluous shoots are removed from the Raspberry plot. It may be well also about this time to examine any trees which may have been grafted

this spring and ascertain whether the tying material is doing any damage.

H. TURNER
(Gardener to the Duke of Northumberland).
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Asparagus Beds.—It is most important that the beds be kept free from weeds and the tall growths supported, otherwise the Asparagus tops may be much shaken by strong winds, and when the growths get broken the roots suffer. On light soils a moderate sprinkling of salt should be given, also occasional applications of liquid manure.

Brussels Sprouts.—It is most essential that the soil between the rows of Brussels Sprouts should be well cultivated so that a quick yet sturdy growth be encouraged. In gardens where the soil is poor an application of a reliable artificial manure should be dusted over the roots during showery weather. On gravelly soils mulchings of short rotted manure should also be given, otherwise it is almost impossible to produce the fine firm Sprouts so desirable to the grower of this popular winter vegetable.

Cucumbers.—Make a sowing now so as to obtain plants for late planting so that the production of fruits may be ensured as far on in the season as possible. Like early crops, the latest supplies always seem to be much appreciated. Sow a prolific and free-setting variety, such as Cardiff Castle or Austin's Improved Telegraph, which is specially recommended for late cropping.

Spinach.—Sow a few lines of the ordinary round variety on ground that has been cleared of early Potatoes. As the season advances fresh pickings are esteemed and late sowings do not so readily run to seed.

Vegetable Marrows.—Thin the growths of Marrows where the plants are likely to become overcrowded and water regularly during dry weather. Cut the Marrows when large enough so as to allow the later fruits more chance to develop.

Milan Turnips.—Continue to sow at regular intervals a few lines of Purple Top or Early White, as in most establishments this type is much favoured.

The Hardy Fruit Garden.

Raspberries.—Look over the Raspberry plantation and remove all weak or superfluous shoots, retaining only sufficient of the strongest for next season's fruiting.

Strawberries.—Where quantities are required for forcing purposes the necessary number of layers should be secured without delay. Layer the runners into 2 in. pots, plunging the pots to the ground level. Immediately root action commences pinch out the growing point beyond the pot containing the layer. Should dry weather intervene, watering must be attended to, as the soil in the small pots will dry up quickly.

Summer Pruning.—This important treatment in regard to fruit trees should now receive attention, for by the timely removal of surplus shoots the fruit gets a much better chance to swell and ripen. Summer pruning is also of considerable assistance in maturing the spurs for future crops. The formation of young trees can also be much improved by the judicious removal of all superfluous growths and the stopping of the remaining shoots.

The Flower Garden.

The Rock Garden.—It is necessary to go over the rock garden occasionally to prevent the encroachment of the strong-growing plants on the weaker sorts. The want of this attention often results in the loss of many of the smaller and more choice plants. Many rock plants can be propagated freely from cuttings at this time, while others should have small rooted portions potted up and placed in a cold frame in readiness to fill the blanks that may be caused by severe climatic conditions or by the ravages of slugs.

The Shrubbery.

Newly Planted Shrubs.—Much anxiety is often caused during lengthy spells of dry weather owing to the wilting of small trees and shrubs planted during the spring. Where at all possible, heavy waterings should be given late in the afternoon, so that the roots may have the cool of the

evening to absorb the moisture. A thick mulching of moss litter is also of considerable benefit in creating a cool root-run, while lawn mowings as a surface mulch should not be despised at this time.

JAMES McGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.).
Coodham, Kilmarnock.

CONSERVATORY AND GREENHOUSE.

Mimulus glutinosus is an old greenhouse plant which is seldom seen at the present day. The type plant has rather small flowers, and generally has been superseded by the improved varieties Sunbeam and coccineus, both of which are sometimes used for summer bedding. They are all easily propagated at any time by means of cuttings of the young shoots, which should be placed in a close case in a cool house. If propagated at this time they will make nice flowering plants for next summer. They are easily grown at all times in an ordinary greenhouse.

Calceolarias.—Seed of the herbaceous type should now be sown in a cool greenhouse. The seed-pans should be watered some time before sowing, as the very fine seed should only be covered with the finest sprinkling of sand. If the seed-pan is covered with a pane of glass and shaded, no further watering should be needed until the seed germinates. If watering is necessary, the seed-pans should be dipped in a vessel of water. Calceolarias of this type require cool and moist conditions at all stages of their cultivation. Calceolarias of the semi-shrubby section, such as *C. Cibrani*, *Allardii* and *integrefolia*, must be propagated by means of cuttings. As the cuttings are often weak from old plants, I find it a good plan to take them from the young ones. Cuttings raised in this way usually grow more freely and make better flowering plants. *C. Burbidgei* is a fine greenhouse plant, and may be flowered in 7 in. pots for the conservatory stage, while if grown on in 10 in. pots they make fine large specimens some 4 ft. or 5 ft. high. *C. corymbosa*, listed by Messrs. Sutton as *Fairy Queen*, is a fine greenhouse plant, and should be grown from seed, giving it the same treatment as the large-flowered herbaceous section.

Azaleas of the indica section should now be stood outdoors on a bed of ashes. Large plants should be plunged sufficiently deeply to prevent them from blowing over. The plants require strict attention as regards watering, and they benefit by frequent application of weak soot water and liquid manure. Weak applications of good guano are also safe. The Azaleas should be vigorously syringed morning and evening, as they are liable to attacks of thrip.

Ericas, Acacias, Callistemons and other hard-wooded plants should be stood outdoors to ripen the flowering wood.

Sparmannia africana should also be stood outdoors, as this is the only way to get this plant to flower freely. If kept indoors the flowering wood does not get sufficiently ripened.

Salvias.—There are quite a number of Salvias that are excellent for winter flowering, especially in the country. In the immediate neighbourhood of London they are very uncertain, as one night's fog is sufficient to ruin them. They should now all be placed in their flowering pots and stood outdoors on a hard ash bottom, or they may be planted out in the reserve garden, from whence they can be lifted and potted up during the autumn. By this method they require less attention as regards watering, and they are less subject to attacks of red spider, to which *S. splendens* and its varieties are very prone. The best varieties for winter flowering are *S. splendens* and its variety *pyramidalis* for large specimens, and the variety *Glory of Zurich* for smaller plants for furnishing the benches in the conservatory. Other good species are *S. rutilans*, *S. involnerata* Bethell, *S. azurea grandiflora*, *S. rubescens* and *S. Heern*. They are all strong-rooting plants, and require abundance of water and liberal feeding when their pots are well filled with roots.

Mesembryanthemums *falciforme*, *violaceum*, *Brownii*, *aurantiacum*, *roseum*, *coccineum* and *blaudum* are all very free-flowering species, and are worthy of more general cultivation for the cool greenhouse. They are easily propagated at any time by means of cuttings. It is not necessary to put them in a case, as they root readily stood on a bench in the greenhouse. If cuttings are inserted at this time, they will make good flowering plants for next year. They grow freely in ordinary potting compost with the addition of plenty of old mortar rubble.

J. COULTS.
Royal Botanic Gardens, Kew.

ORCHARD

GARDEN

WOODLAND

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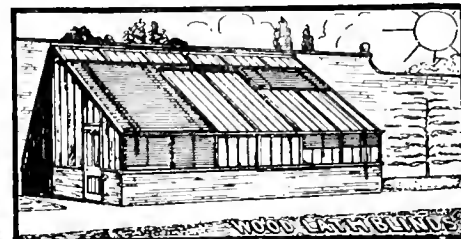
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ALPINES FROM SEED

THE raising of alpine plants from seed presents no special difficulty to the enthusiastic gardener who is prepared to cater separately for the individual requirements of the various species. The word alpine it should first be stated is intended in this connexion to cover the choicer sorts of rock plants whether they come from great elevations or comparatively low ones, and whether their native habitat be in Europe or elsewhere. Dealing first of all with home-saved seed, the amateur will wish to know how to dispose of his harvest—whether to sow it forthwith or to save it until “the turn of days.”

Seeds of *Primula* or *Androsace* should certainly be sown at the earliest possible moment, and although seeds of most species of *Saxifrage* will germinate if sown at the end of the year, a better percentage of plants and more vigorous ones are obtained if seed is sown at once. It is wise, then, to sow as many of the choicer species as possible soon after ripening, but as circumstances sometimes make it impossible to sow the whole, it may be well to mention the genera which should, in any case, be sown forthwith. Such are the *Primulas*, especially the *Candelabra* section and other soft-leaved varieties. Seeds of the *Auricula* like species, such as *P.P. hirsuta*, *villosa*, *Auricula. integrifolia*, etc., keep better, but even these are better sown immediately. The *Gentians* have seeds notoriously difficult to germinate if kept, but the seedlings usually appear early the following spring if sowing is carried out immediately the seeds are harvested. Prompt sowing is very desirable with the stone-like seeds of *Lithospermum*, *Onosma* and *Myosotis*, but it is not essential.

For choice alpine seed pans should, wherever possible, be used. It is much easier to keep the soil evenly moist in them than in boxes. Whether round or square pans are employed will depend to a large extent upon the quantity of seeds of each variety or species available or, if seed is plentiful, the number of plants it is desired to raise. The square pans, naturally, waste less space than the round ones, and

are, especially when packed together, more easily kept evenly moist, so that, where large pans are necessary, the square ones should have preference. “Old hands” often sow three or four species, which they know by experience will germinate and grow on together and which require similar compost, in the same pan, but the beginner will be wise to keep each species in a separate pan. Even the expert occasionally gets “left” through attempting several species together, for seeds are apt to behave differently under varying climatic conditions.

The compost is, for many species, of the first importance, but the following readily procured ingredients will cover all requirements: Clean,

sweet fibrous loam from the top spit of an old pasture, brick dust, broken iron furnace slags or broken potsherds, coke dust such as will pass a ½ in. sieve, old mortar rubble (pass the fine through a ½ in. sieve, but save the rough lumps), thoroughly decayed leaf-mould, fine peat, fine silver sand and live sphagnum moss.

It is not possible in the course of an article such as this to suggest a compost for each species, but a careful study of the habits of the plant it is proposed to raise will, if the following hints are carefully studied, suggest the most favourable ingredients. The alpine *Gentians* (as distinguished from the bog species), such as *G.G. verna*, *brachyphylla*, *bavarica*, *Kochii*, *Clusiana*, *angustifolia* and *Gentianella*, like a gritty soil. Having filled the pan half-full of coarsely broken potsherds or rough coke dust to ensure drainage, let us make up therefore a compost consisting of two parts fibrous loam, one part leaf-soil and four parts broken brick, potsherd or furnace slag with a little coke dust, all passed through a ½ in. sieve. For the lime-loving *Clusiana* two parts of mortar rubble should be substituted for two parts of the “ballast.” With reference to this last it will be sufficient to pass potsherd or furnace slag through a ½ in. riddle, but broken brick is apt to contain too much fine powder and should be riddled on a ½ in. sieve to remove this. The ½ in. sieve will be suitable for riddling the covering compost, which should be taken from the heap of compost already made up. Bury the seeds to a depth of twice their depth.

The compost described for *Gentians* may be considered a standard one for many stone-loving alpine plants. With the mortar rubble it is ideal for *Æthionemas*, the choicest *Campanulas*, many of the *Androsaces*, the *Encrusted* (*Euzoonia*) and most of the *Tufted* (*Kabschia*) *Saxifrages* as well as those of the *oppositifolia* (*Porphyrium*) type, many of the fleshy-leaved *Primulas*, *Potentilla nitida*, the chalk-loving members of the *Dianthus* family, the choicer *Arnicas*, *Papaver alpinum*, *Aquilegia alpina*, *A. narcissiflora*,



RAMONDIA PYRENAICA COMES FREELY FROM SEED



SEEDS OF THE BRIGHT ROSE-COLOURED DIANTHUS ALPINUS
GERMINATE QUICKLY.



THE UNCOMMON MAGENTA FLOWERED PRIMULA MEGASEFOLIA.
All Primula seeds should be sown as soon as ripe.

Gnaphalium and Leontopodium, Geum reptans and *G. montanum*. Without mortar rubble it will suit some Saxifrages which do not like lime—*S. mutata*, for example, *Dianthus glacialis*, most *Silenes* (but *S. quadrifida* likes lime), *Lychnis alpina*, *Anemone sulphurea*, *A. Pulsatilla*, *A. montana*, *A. Halleri*, *A. vernalis*, *A. baldensis*, *Douglasia* (Androsace) *Vitaliana* (a little more leaf-mould is beneficial) the *Linarias*, especially *L. alpina* and its colour forms, and *L. petraea*, *Erinus*, *Sedum* and *Sempervivum*.

A silky compost consisting largely of peat, leaf-mould and loam, but with an admixture of fine ballast and coke dust, will suit the peat-loving Androsaces *A. carnea* and *A. Loggeri* and *Myosotis rupicola* and *M. alpestris*, the *Cyclamens*, *Soldanellas*, *Cortusas*, *Pyrolas* (not always easy to raise), *Dryas*, *Coronilla*, *Oxytropis*, *Hepaticas* and *Anemone angulosa*, the *Ranunculuses*, *Trolliuses* and choicer *Aquilegias*.

Some genera there are which, delighting in a cool root-run, are best raised in a stony compost containing a proportion (say one-fifth) of chopped sphagnum moss. Probably many of the genera mentioned in the last paragraph would appreciate this treatment, which is absolutely necessary for *Eritrichium*, and might probably be desirable for *Myosotis rupicola*. The *Eritrichium* comes readily from seed in such a compost, and may be flowered in pans under glass if great care be taken, but the writer has always failed to establish it outdoors. *Soldanellas* appreciate the more even state of moisture induced by the sphagnum, and may usually be flowered the second year from seed. The beautiful and quaint *Pinguiculas* appreciate the sphagnum at all stages of their culture. The amateur who is determined thoroughly to understand alpine plants will try an equal number of seeds in alternative composts and note results. The elevation and climatic conditions of his station will make a considerable difference and he will sometimes get surprising results.

A compost consisting largely of peat and silver sand with just a little loam to give it body will suit the Heaths—*Erica*, *Calluna*, *Daboecia* and *Menziesia* and other American plants, including *Rhododendrons*. These plants, once grown, will succeed in any turfy, lime-free loam, but the seed-pans must have abundance of peat or leaf-mould, or no seeds will germinate.

A similar compost, but with the addition of a considerable amount of ballast will suit the *Ranuncias* and *Haberleas* which, though rather slow are, given ordinary care, sure enough from seed. Shade is necessary for them, of course, and water must never be permitted to lodge in the crowns.

Once the seeds are sown, covered and watered in, they should be placed in a frame with a north aspect, separating them into two classes—those which need an exceptional amount of water prior to germination and those which do not.

The finer seeds should have the pans soaked by dipping in water almost to the rim, thus allowing the moisture to percolate upwards, but most sorts may be thoroughly soaked by watering them overhead with a fine (raining) rose on a gallon-size watering can. A Haws' can with the flat rose on (holes upward) is ideal for the purpose. It is a little surprising that these excellent cans are not even more used than they are. In many gardens one still sees the old "boss" rosed can in use—a singularly primitive and unprofitable implement.

Immediately germination takes place further segregation will be necessary. The *Primulas*, *Pinguiculas* and such like will like the cool aspect of a frame facing north, but the Encrusted Saxifrages and many true alpine plants will need one quite in the open and facing west at it be summer-time or facing south in winter.

Pricking off, as a general rule, should take place as soon as the seedlings are large enough, but it is not wise to prick off the plants towards the end of the year, when growth has become slow or ceased altogether. Better in such case leave them in the seed pans until spring. The compost for pricking off should be similar to that used successfully to carry the seedlings so far, but may, naturally, be a little coarser. Rosetted plants such as Encrusted Saxifrages and "miffy" ones, such as *Eritrichium* or, perhaps, *Cyananthus*, may well have bits of stone or brick or even, if lime loving, hard mortar rubble packed round their collars, if one has patience to do this.

It will be noted that nothing has been said as to the raising of the more commonplace rock plants, such as *Aubrietia*, *Alyssum* and the commoner *Arabises*. The reason for this is sufficiently obvious. Seeds of these plants are as easy to germinate and the seedlings as easy to raise as those of bedding *Lobelia*, for instance, and considerably easier than most amateurs find *Stocks* or *Asters*. The only danger with such things is that they may be raised and kept in too high a temperature when, in addition to becoming a ready prey to insect pests, they are apt to damp off.

THE BORDER PINK

Its Development, Prospects and Cultivation.

THE Border Pink, a flower which a generation ago seemed entirely to have become a back number as far as garden decoration was concerned, to-day shares with the Rose and Iris the honour of being in the van of progress. The decline of the Pink in popularity came about through its culture as a florist's flower. Perfection of form and regularity of marking are excellent things in themselves, but when they are pursued at the expense of habit, vigour and freedom of flowering, when, in short, a humble but valuable border flower becomes fit only for the greenhouse and the show bench, its appeal to the ordinary flower-lover has gone.

Strangely enough, the "come-back" of this fragrant and beautiful flower is largely due to one of the old school of florists. Mr. Herbert, whose happy accident in raising and recognising the merit of Progress and continued careful selection since, have probably done more to re-establish the Pink in favour than the work of all other raisers together, is a real florist. It is more than probable that he is the most skilful dresser of a Carnation alive to-day. This "florist" outlook is shewn by his affection for his variety Model, which produces more perfectly shaped flowers from an exhibition standpoint than any other Pink or Carnation in existence. The Herbertii, as Pinks of Mr. Herbert's strain are often called, though they vary a great deal, all throw shapely flowers, and in addition they have the other essential qualities of constitution, hardihood, habit and freedom of flowering.

These Pinks shew evidence of Border Carnation blood. Mr. Herbert is confident that none has been introduced at his nursery either by accident or of set purpose. The Carnation characters which they possess must therefore represent a throw-back to some Carnation blood introduced experimentally, or possibly inadvertently, into one of the florist Pinks which were the parents of Progress or one of their ancestors. Few who have seen or grown them will deny that they have "Border" blood in them.

The Allwoodii, of which so many have of late years been sent out by Messrs. Allwood, admittedly have Carnation blood, but in their case it is the Perpetual Carnation which has been utilised, so that the plants flower over a much longer period than do the Herbertii. The Allwoodii have many friends and many detractors. Their friends are those who take them as very useful hardy plants which can be utilised for garden adornment in many ways—for edgings, for under-planting and what not. Their detractors point to the imperfect finish of the individual blossoms and to what they are pleased to describe as the weediness of their growth. Their very ease of

propagation is held up against them as if it were a fault!

The fact is that Herbertii and Allwoodii are both valuable garden flowers, but despite their apparent similarity of breeding they are almost as wide apart in their characteristics as the Poles. The Herbertii are free to flower—considering the size and quality of their blossoms very free to flower—and their flowering extends over a considerable season, being a great improvement in this respect on the old garden Pinks, now typified by Mrs. Sinkins. Allwoodii are marvellously floriferous, and after the first heavy crop continue to flower to a smaller but still very considerable extent the summer through.

Herbertii are ready enough to propagate either from layers or cuttings, but they will not root from cuttings in the haphazard manner sufficient for Allwoodii, nor may the plants be pulled apart



TYPICAL FLOWERS OF DIANTHUS HERBERTII.

and replanted. When it comes to winter hardiness, however, it is another story. The Herbertii are of unimpeachable hardiness—equally oblivious of wet or frost. Allwoodii, like the Gaillardia, for instance, are apt to succumb in wet winters, particularly in heavy soil. This applies more especially to older plants. Risk of winter loss may be minimised if not entirely overcome by regular propagation.

Again, a comparison of the flowers of the two strains discloses a vast difference. The original Allwoodii made little pretension to perfection of form in the individual flower. The newer introductions are admittedly much better in this respect, but still leave something to be desired. Their flowers are, on the average, much smaller and lighter than those of the Herbertii. Again, as to colour range, there is a vast difference, for whereas the Herbertii are now obtainable in most of the shades known in the Carnation, Allwoodii, though their colour range is considerable, follow at present the rather duller colourings which have always

been associated with the Pink. It will be seen, then, that these two strains each represent a great advance on anything known before, but progress has proceeded in entirely different directions. Perhaps by selection and interbreeding a strain may ultimately be evolved possessing most of the strong points of both.

The future of the Border Pink is not entirely dependent on these two hybrid races. Mr. James Douglas has a whole race of Border Pinks which are obviously all Pink. These, like the Douglas strain of Border Carnation, are mostly of splendid habit. The flowers, which have a wide range of colour in what are generally accepted as Pink shades, are of medium to large size, bright and shapely. These are not, of course, perpetual flowering, but they give a brave show in their season, and their foliage is beautiful the year round.

Another assiduous worker among hardy Pinks is Mr. Maurice Prichard of Christchurch, whose brilliant scarlet and crimson hybrids have at various times attracted considerable attention. These, however, beautiful though they are, have neither the foliage nor the habit we usually associate with the Border Pink. Just recently Mr. Prichard has exhibited hybrid Pinks, probably with *Dianthus alpinus* blood, which may be described as very much enlarged and perfected editions of *Dianthus neglectus*. The single flowers are wonderfully round and about as large as *Dianthus Herbertii* Model.

Attention has of late once again been given to hybrids between Carnation and Sweet William. Hitherto these have not proved good garden plants, and the writer is rather doubtful whether much permanent good will come from this rather fascinating cross. In any case they hardly come within the scope of this article, since they bear their flowers in flat-headed trusses somewhat similar to those of the Sweet William.

To sum up, the best results so far achieved with the Border Pink have come from the introduction of Carnation blood, either Perpetual or Border, but there is every reason to hope for still further advance through the introduction of alpine blood.

It is very interesting to observe how the characteristic zone of the Pinks persists in the Herbertii. In the deep black crimson and crimson purple forms it is difficult to trace the zone, but the fully double salmon pink ones, which at first sight seem self, shew on closer inspection a zone of darker colour, which, incidentally, as providing a darker centre to the flower, gives it richness of tone. This zone is very persistent in the Pink. Such "self-coloured" sorts as Mrs. Sinkins and Her Majesty have it, though it is represented only by a green suffusion of the petals.

Mr. Herbert's three novelties for which he received awards of merit at Chelsea Show were very attractive. The delicate colouring of Bridesmaid attracted much attention, but a flower of deeper colouring, as yet unnamed but of excellent shape and just the shade of an Eucharistess Carnation, will be even more popular when known. Red Indian is a full but very shapely flower of rather uncommon colouring. Of the older sorts of Herbertii in commerce I should select the almost black-crimson Victory, a medium-sized double flower; Queen Mary, rosy pink and deep crimson; Mrs. George Walker, old rose colour, a fine flower and "good doer"; May Queen, clear bright pink, very charming; Model, for its perfection of shape rather than for anything unusual in the colouring; Imperial, with crimson-scarlet blossoms; and Negress, a deep plum colour. All are good, however, and when some of the wonderful shades now in existence, but not in commerce, are put upon the market the colour range will be truly remarkable.

H. H.

BROOMS AND GENISTAS OF FULL SUMMER

TO the nurseryman (I think it was Mr. T. Smith of Newry) who gave us the late-flowering forms of the Common Broom (*Cytisus scoparius*) we gardeners owe much, for by growing these we can prolong the splendour of the spring-flowering native right through to August. The late-flowering Broom does not differ from the type, save in its season of blooming, but it has a stronger habit, many specimens will be curiously leafy as compared with the ordinary kind, and a certain rigidity in the long flowering branches, which, when they break horizontally from the 8ft. to 12ft. stem, to dip at the ends when weighted with their load of flowers, give the shrub a distinctive character. These late Brooms are readily raised from seed, and a few *Andreas* forms will often occur among them.

Next in importance, giving beauty of habit and ease of culture first consideration, one must place *Genista virgata*, which, though a native of Madeira, seems perfectly hardy. This is a first-rate species for a barren, porous soil, and young plants (easily produced from seed sown outdoors in mid-summer) grow away rapidly and quickly come into the flowering stage. *G. virgata* may be grown either in the mass or as a single specimen. I prefer it in the latter way, for it will make a most imposing and compact mound 10ft. to 12ft. high and as much through, the bush being clothed to the ground with its multitude of fine twiggy growths, which are well furnished with tiny leaves the silky hairs of which give the whole shrub a soft and silvery grey appearance. The terminal branchlets break into blossom usually about the beginning of July (this year they were a fortnight earlier), and when they are all bearing their slender racemes of little yellow flowers a well grown specimen of *G. virgata* is a most glorious sight.

Before the Madeiran Broom is quite over *G. retensis*, a native of Sicily, comes into blossom. This is not such a hearty-looking shrub as the foregoing, for it often assumes a rather gaunt habit, the single stem breaking at the head into a number of thin and drooping, entirely leafless branches. But at about this season, or it may be in August, these apparently lifeless twigs give forth a tender new growth, and upon these fresh and sappy branchlets, which carry a few delicate leaves, are the flowers borne. These blossoms are, individually, about the size of those of the May Broom (*Cytisus præcox*), a rich golden yellow and very fragrant. They set seed in a favourable summer, and the species is best propagated by that means. *Genista atnensis* will also grow to 10ft. or more in height, and it, again, is a rare shrub for a hot, dry soil. It seems to be as hardy as most of the Brooms in general culture. *G. monosperma*, of somewhat smilar habit of growth, but bearing clusters of white flowers upon its pendulous twigs, is also a Sicilian and a very lovely and interesting species, but so far we have failed to induce it to withstand our winters.

Cytisus nigricans is one of the most important of the July-August Brooms, and a fine thing for grouping on dry banks in association with Heaths and other sun-lovers. The habit is somewhat slender and the bushes reach a height of about 6ft., throwing out in the late summer terminal shoots which bear long and elegant racemes of yellow flowers. There are several forms of *C. nigricans*, such as *Carlén* and *longispicatus*, both with even longer flower sprays than the type, the former being distinguished for its more extended season of flowering.

C. austriacus is a useful species, inasmuch as it yields its principal display of yellow flowers

in late summer. It makes a bush some 3ft. high, and there are several forms, a curious departure from the type being *axillaris*, which bears its blooms at the leaf axils instead of at the ends of the shoots. *C. decumbens*, a trailing species, will often flower as freely in July or August as it does in spring, and another good rock garden kind is *C. Heuffeli*. Then there is *C. racemosus* (*Genista fragrans*) well known in greenhouses, a most sweetly scented and admirable shrub for a warm place. Indeed, this is much hardier than is generally supposed, and might be grown successfully even without a wall in most of our milder counties. Here it has wintered well in the open without protection, and if it is the first to come into flower it is among the last to yield to autumn.

The finest of our native *Genistas* is *G. tinctoria*, of which there are two well known forms, a double-flowered one and *G. t. var. elatior*, which hails from Eastern Europe. This last is a handsome

make little mounds or mats of gold from now onwards

Though it belongs to a different genus, *Spartium junceum* is altogether too fine to be omitted when speaking of Brooms, yet it is now so well known that one need not enter upon a description of its rush-like stems and large, clear yellow, long-stemmed flower clusters which look like golden Sweet Peas and smell like a Bean field. *S. junceum* is one of the most admirable shrubs ever introduced to English gardens, for it is not only beautiful and fragrant when in bloom, but it will flower from before midsummer to nearly Christmas, will thrive almost anywhere, is perfectly hardy, and quickly and easily raised from seed sown in the open ground. The Spanish Broom, as it is called, is practically everyone's shrub, excellent for town gardens, while the blossoms are first-rate cut for table, and the more the bushes are snipped the better do they seem to thrive. A.T.J.

C. racemosus withstands average winters in many parts of the Midlands if not exposed to morning sun, but not everyone will subscribe to

EARLY-FLOWERING SPECIES.

Name.	Colour.	Height.	Flowering Season.
<i>Cytisus albus</i>	White	10ft.	May.
<i>C. Ardoini</i>	Golden	Prostrate	April—May.
<i>C. Beani</i> (<i>Ardoini purgans</i>)	Bright yellow	1ft.	May.
<i>C. Dallimorei</i> (<i>scoparius Andreasii albus</i>)	Bright lilac-rose	8ft.	May.
<i>C. decumbens</i>	Yellow	Prostrate	May and June.
<i>C. kewensis</i> (<i>Ardoini albus</i>)	Sulphur-yellow	1ft. (prostrate)	May.
<i>C. monosperma</i>	Bright yellow	6ft.	May.
<i>C. præcox</i> (<i>purgans albus</i>)	Sulphur	8ft.	May.
<i>C. purgans</i>	Golden yellow	3ft.	April—May.
<i>C. purpureus</i>	Purplish	1½ft.	May.
<i>C. p. var. albus</i>	White	1½ft.	May.
<i>C. p. var. roseus</i>	Pinkish	1½ft.	May.
<i>C. ratibonensis</i> (several varieties)	Bright yellow	4ft.—6ft.	May.
<i>C. scoparius</i> (Common Broom)	Golden yellow	6ft.	May.
<i>C. s. var. Andreasii</i>	Crimson-bronze and yellow	6ft.	May.
<i>C. s. var. flore pleno</i>	Double yellow	6ft.	May.
<i>C. s. var. pendulus</i>	Golden	Prostrate	May.
<i>C. s. var. sulphureus</i> (Moonlight Broom)	Sulphur yellow	4ft.	May.
<i>C. sessilifolius</i>	Bright yellow	6ft.	June.
<i>C. versicolor</i>	Yellowish rose	2ft.	May.
<i>Genista glabrescens</i>	Yellow	2ft.	May.

LATE-FLOWERING SPECIES.

Name.	Colour.	Height.	Flowering Season.
<i>Cytisus Heuffeli</i>	Yellow	1ft.	July and Aug.
<i>C. hirsutus</i>	Yellow	1ft.—2ft.	July and Aug.
<i>C. leucanthus</i>	Creamy white	1ft.	July and Aug.
<i>C. nigricans</i>	Yellow	4ft.	July and Aug.
<i>C. supinus</i> (including <i>C. austriacus</i>)	Yellow	3ft.	July and Aug.
<i>Genista atnensis</i>	Golden yellow	15ft.	July.
<i>G. auzelia</i>	Yellow	8ft.	June and July.
<i>G. cimetea</i>	Yellow	8ft.	June and July.
<i>G. dahmatica</i>	Yellow	Prostrate	June and July.
<i>G. germanica</i>	Yellow	2ft.	June and July.
<i>G. hispanica</i>	Yellow	2ft.	June and July.
<i>G. radiata</i>	Deep yellow	5ft.	Late June.
<i>G. sagittalis</i>	Yellow	1ft.	Late June.
<i>G. tinctoria</i>	Yellow	2ft.	June—Sept.
<i>G. t. var. flore pleno</i>	Yellow	2ft.	June—Sept.
<i>G. t. var. elatior</i>	Yellow	4ft.	June—Sept.
<i>G. t. var. nantica</i>	Yellow	2ft.	Early June onwards.
<i>G. virgata</i>	Bright yellow	12ft.	June—July.
<i>Spartium junceum</i>	Bright yellow	10ft.	June—Sept.

shrub and the largest of the trio, growing up to 4ft. or more. When covered with its yellow blooms it is a very welcome object at the "back-end" when flowers are getting few. The native type is barely half as tall, deep green in its glossy leafage and a profuse bloomer. Not less strikingly green in the driest of dry places is the double form, and though this is much dwarfer, almost prostrate, it is a showy little plant.

G. radiata is rather a tender southerner, up to 3ft. in height, a pretty plant for the sunny side of a sheltered rock garden or dry wall, where its terminal spikes of yellow blossoms will prove effective for many weeks of late summer. *G. sagittalis*, with its winged stems and upright shoots of silky flower-heads, is familiar to most and a fine thing for covering a hot place. In addition to these the rock gardener will find in any good list some half a dozen more *Genistas* of a quite dwarf and often spiny type which will

Mr. Johnson's estimate of the hardiness of *Spartium junceum*.

The subjoined list of the more desirable species of Broom and some of the more noteworthy hybrids and varieties, with colour of blossom, approximate height and flowering season should be of value to planters.

Speaking generally, the less pruning Brooms get the better they look, but there are exceptions. If pruning must be done to reduce the size of the bush, this should, with most species, be carried out in winter. *Cytisus purpureus* should have the old wood cut out immediately after flowering. The species grouped in the late section flower on wood of the current year, and may be pruned back fairly hard before growth commences in spring. Many species make more shapely trees if cut back hard once or twice when young, but in the case of purchased pot-grown specimens this has always had attention.—Ed.]

FRAGRANCE IN THE ROSE

RECENT articles and correspondence in the daily Press have brought up the question of fragrance in flowers in general and of the Rose in particular. Scaremongers would have us believe that fragrant flowers are becoming things of the past. Readers of THE GARDEN will know that such is very far from being the case. The proportion of really scentless Roses, leaving Ramblers aside, never very great, is probably smaller to-day than it was a few years ago.

It is, naturally, difficult to raise a variety with obviously a large preponderance of Tea blood and yet possessing the perfume of the Damask. Neither can we expect raisers to discard a Rose of many excellencies just because it happens to be deficient in scent, especially as there are so many folk with excellent eyesight whose sense of smell is either entirely wanting or hopelessly rudimentary!

It must be granted, however, that perfume is eminently desirable, especially in varieties intended for cut flower. The following excellent sorts are among the most fragrant: General McArthur, Hugh Dickson, George Dickson, Château de Clos Vougeot, Jonkheer J. L. Moek, Ulrich Brunner, Général Jacqueminot, Avoca, Florence H. Veitch, Richmond, Lieutenant Chauré, Liberty, Commandant Félix Faure, Zéphirine Drouhin, Mrs. A. E. Coxhead, Mrs. John Lang, Mrs. George Norwood, Gustav Grunerwald and Laurent Carle, all the above in shades of crimson, deep rose and carmine; Conrad F. Meyer, Mme. Abel Chatenay, Pharisæer, Ophelia, Lady Alice Stanley, La France and Augustine Guinoisseau in pink shades; Mrs. Foley Hobbs and Mme Alfred Carrière, almost white; The Queen Alexandra Rose, Duchess of Wellington, Dr. Joseph Drew, Eugénie Lamesch and Marechal Niel in copper and yellow shades. Three of the Wichuraiana hybrids in addition are noticeably fragrant, namely, Léontine Gervais, François Juranville and Evangeline.

The varieties given must by no means be taken to exhaust the list of sweet-scented Roses, though most of the powerfully fragrant sorts are included.

Quite apart from these, there are, of course, the Moss Roses with their curiously sharp but pleasing fragrance and the delightful Hybrid Sweet Briars with scented foliage, not to speak of the old Damask and Provence Roses still procurable by those who wish. The Musk Rose, *Rosa moschata*, yields a characteristic and charming if not overstrong perfume not, so far, noticeably transmitted to its descendants.

The incidence of perfume among seedlings is very interesting but as yet imperfectly understood. This not only in the cases of Roses, but of other flowers which may be either scented or scentless. It certainly seems that in some cases the presence of two special colour factors will inhibit the factor for fragrance from appearing in that particular cross though it may reappear in the next generation.

TROLLIUSES

AFTER an interval of more years than I care to remember I have once more Trolliuses in the garden. Last autumn I went out into the

highways and hedges and compelled all I could find to come in, and thus the garden was furnished with guests—good, bad and indifferent. It is too soon to pronounce any sort of a final ex cathedra judgment upon their relative merits, but I may say that I am confident that some are



THE OLD FRAGRANT DAMASK ROSE.

much better than others. Perhaps another year when the plants have got into their stride once more the order of preference will not be exactly the same; meanwhile may I suggest as worthy of trial the following varieties: Newry Giant (deep orange, rather late flowering), Ophir (magnificent large orange), Mrs. Harkness (pale orange), Giantball (yellow), Lemon Queen (pale yellow), Potten's variety (an improved European), Intrusion (dwarf, small flowered, early and free) and Triumph (rich yellow, one of the latest to bloom). On looking at my garden book I find that every one of these interim selections came from Mr. G. W. Miller of Wisbech. He supplied me with excellent plants. Only one variety out of the thirty-two which came from him did not do well. To be a wee bit Irish, old Miller's the boy for Trolliuses. The surprise of my large collection up to now is Intrusion. It is a plant apart—a sort of General Tom Thumb of the Trollius family, but so well proportioned in height of stem, foliage and flower that it looks perfectly all right in every way. Another point that no one could help noticing is the great difference in the foliage between that of the new-comer *pumilus yunnanensis* and that of all the other brethren. It reminds me of Hepaticas, whereas that of the rest suggests very finely divided Buttercup leaves. I feel I really must call attention to what splendid plants all the Trolliuses are for cutting. Not only do they last well in water, but the slightly feathered stems give such a comfortable well filled appearance to a vase that no other greenery is necessary. It is rather surprising that Trolliuses are not more largely grown than at present seems to be the case.

MAJOR.



THE FRAGRANT HYBRID NOISLETTE MME. A. CARRIERE, AN ADMIRABLE CLIMBING ROSE.

MORE ABOUT THE SUMMER ROSE SHOW

MOST of the many baskets of Roses in the amateur section were very beautiful. The best basket of fourteen blooms of one variety was that of Hugh Dickson, shown by Mr. G. C. Sawday, while Mr. Wettern was a very good second with Avoca. A tasteful association of the Lyon Rose and Mrs. Foley Hobbs by Mr. G. Marriott won the first prize in the class for a basket of not more than two varieties, and Mr. Marriott was also first in the other basket classes; his basket of Los Angeles was the best of very many praiseworthy efforts. The decorative Roses in baskets were also very effective and brought many exhibitors. Mr. H. L. Wettern, Mrs. Henry Balfour and Mr. F. H. Fieldgate won the first prizes.

The special tent was well filled with dinner table and other decorations and many meritorious arrangements had to go unrewarded. In the open dinner-table class, Mrs. May, Waltham Cross, was first with a tasteful arrangement of Ophelia. Mrs. A. R. Bide, Farnham, was second with a bright table of Emma Wright, and Miss Pemberton was third with The Adjutant. In the Amateurs' Class, permitting only single Roses, the competition was very severe and here Mrs. Courtney Page was first with a charming table of Irish Elegance, while Mrs. Barton, Chappell, who used Isobel, was second, and Mrs. Oakley Fisher, showing her name variety, was third. Mrs. Courtney Page was also first in the dinner-table class which permits the use of any varieties except singles and she used Mme. Butterfly very tastefully. The Nickerson prize was won by Mrs. Barton, who combined Padre, Irish Fireflame, Smstar and Irish Elegance very effectively, while Mrs. Courtney Page was

second with a delightful table of Mable Morse and Ethel James.

The best bowls of Roses in the various amateurs' classes were arranged by Mrs. Barton, Mrs. Oakley Fisher, Mrs. E. M. Barnett and Miss Ethel James, while in the nurserymen's class Mrs. A. Bide was first with a tasteful bowl of Irish Elegance and Irish Fireflame.

In the nurserymen's classes it was a great day for Messrs. Alex. Dickson and Sons, who repeated their successes of last year by winning the champion trophy and gold medal with seventy-two splendid exhibition varieties and being also again first with thirty-two distinct varieties, three blooms of each. In the championship class they had in Mrs. G. Marriott the silver medal Hybrid Tea bloom of the open section and also beautiful examples of Archie Gray, Florence Pemberton, Snow Queen, Dean Hole, Mrs. G. Sawyer, Lady Inchquin, H. V. Machin, Marjorie Bulkeley and Mildred Grant. Their trebles were also a wonderfully good collection, and of them the very best were Mrs. G. Marriott, Molly Bligh, Dean Hole, Edward Bohane, Florence Pemberton, Mrs. Fred Searle and Lady Barham. In the championship class Messrs. Hugh Dickson, Limited, were a good second, and their very best blooms were of Gorgeous, E. Godfrey Brown, George Dickson, Alex. Emslie, Mrs. J. Laing, Mildred Grant, Mrs. G. Marriott, Pink Pearl and the Lyon Rose. Messrs. D. Prior and Son, who were third, showed good examples of such as George Dickson, Gorgeous, Florence Forrester and Snow Queen. The second prize winners in the superb trebles class were Messrs. B. R. Cant and Sons, who staged excellent sets of Gorgeous, Snow Queen, Hugh Dickson and

Lemon Pillar; while Messrs. D. Prior and Sons were third.

The China Trophy, which requires forty-eight distinct exhibition blooms, was won by Mr. George Prince, and while the exhibit did not quite reach the very high standard of the first two classes, it contained enviable blooms of Mrs. Edward Mawley, Edith Cavell, Golden Emblem, Snow Queen, Modesty and Margaret Dickson Hamill. Mr. Charles Godfrey, showing such as William Shean, the Lyon Rose and George Dickson, was second. Mr. Henry Drew, who was third, took chief honours in the class for eight varieties, three blooms of each, where he had beautiful specimens of such as Gorgeous, Golden Emblem, Margaret Dickson Hamill and Mrs. R. I. McClure. Mr. Charles Gregory, showing very fine sets of H. V. Machin and Lyon Rose, was again second, and Messrs. G. and H. Burch were third. The best twenty-four exhibition Roses were shown by Mr. John Pigg, whose outstanding sorts were Colonel Oswald Fitzgerald, White Maman Cochet, H. V. Machin, Golden Emblem and Mrs. W. J. Grant. Messrs. Chaplin Brothers were a close second.

The Tea and Noisette Roses were not equal to the high standard of the blooms in the first two classes, which nearly all were characterised by exceeding freshness, shapeliness and size and, it must be confessed, they were rather inferior to the first prize exhibits in the amateurs' section. The best nurserymen's Teas were by Mr. George Prince, who staged such as Auguste Comte, Mrs. H. Taylor, White Maman Cochet and Mrs. Campbell Hall. In the second prize collection of Mr. Henry Drew there were examples of W. R. Smith, Mrs. Foley Hobbs and Lady Plymouth.



NEW ROSE J. G. GLASSFORD, DEEP CRIMSON LAKE.



THE RICH SHIELL-PINK ROSE LADY VEREY.

New Roses always fascinate, and one turned with interest to the class for twelve blooms of varieties distributed since January 1, 1918, and while not discovering any epoch-making variety, saw quite good blooms of such as Princess Victoria, J. G. Glassford, Mrs. Lamplough and Mrs. Darlington in the first prize exhibit of Mr. George Prince.

Angeles, Château de Clos Vougeot and Mrs. Henry Morse by Mr. Mattock, while Mr. Gregory was second with Emma Wright, Christine and Golden Emblem.

The groups of Roses, as those glorious masses of cut Roses, each exhibit differently arranged but still of characteristic style, are termed, were

Henry Morse, George Dickson and Ophelia. Messrs. A. J. and C. Allen, who were second, showed beautiful stands of K. of K., Mrs. Henry Morse and Ophelia.

Although decorative effect is still aimed at, the number of varieties is restricted in the remaining classes, so these have a distinct value to the visitors who desired to select the two or three dozen or even fewer decorative Roses. The challenge cup offered for the best three dozen vases was won by Messrs. F. Cant and Co. with such as Moonlight, Braiswick Charm and Miss Ada Francis (of the cluster varieties), Donald McDonald, Ophelia, K. of K. and The Queen Alexandra Rose. Mr. Mattock, who was second, included Mrs. Redford, Rayon d'Or, Mrs. Curnock Sawday and Constance. The dwarf Polyantha Roses were also particularly well shown, and there were delightful vases of Mrs. W. H. Cutbush, Etoile de Mai, Léonie Lamesch, Perle d'Or and Baby Tausendschon in the first prize collection of Messrs. W. and J. Brown; while Mr. John Mattock had a beautiful vase of Rödhätte in his good second prize exhibit.



A BASKET OF MARGARET DICKSON HAMILL SHEWN BY MESSRS. ALEX. DICKSON AND SONS.

Messrs. Hugh Dickson, Limited, were second, and had Alex. Emsley, Mrs. J. R. Allen, Margaret M. Wylie and Marjorie Bulkeley.

The silvery pink Marjorie Bulkeley shown by Messrs. Hugh Dickson, Limited, were adjudged the best twelve blooms of any Rose distributed since January 1, 1918. Brilliant blooms of The Queen Alexandra Rose by Mr. Elisha J. Hicks and Messrs. D. Prior and Son, was the best Hybrid Perpetual. Edith Cavell by Mr. G. Prince and George Dickson by Messrs. W. and J. Brown won the first two prizes in the order named as the best baskets of Hybrid Tea Roses; while of the Teas Mme. Jules Gravereaux by Messrs. D. Prior and Son was first, and Mrs. Foley Hobbs by Messrs. W. and J. Brown was second. The seven baskets of decorative Roses that won first prize for Messrs. Chaplin Brothers were uniformly excellent, and included such sorts as Mrs. Henry Bowles, Isobel, Colonel Oswald Fitzgerald, Golden Emblem and K. of K. Messrs. Alex. Dickson and Sons were second with charming baskets of Lady Inchquin, Sunstar, Betty Uprichard, K. of K. and Margaret Dickson Hamill. The best three baskets were excellent arrangements of Lus

eagerly scanned by enthusiasts throughout the whole of the afternoon, for in them they could see the more recent varieties together with old favourites, and so properly appraise their value; while perhaps most important of all, the newest recruit to the great army of amateur rosarians could not fail to be so fascinated as to order more Roses than he or she intended when setting out for the Show. This would be a good fault, because one cannot very well grow too many Roses, and the time and skill expended in arranging these generous displays of beautiful blooms certainly deserved more tangible reward than the honour of winning the first prizes in the various classes or of being honourably beaten in the struggle. The champion group was by Mr. Elisha J. Hicks, who has secured the coveted trophy for the third successive year. His cross arches of Joanna Bridge and Mrs. F. W. Flight, of Red Letter Day and Blush Rambler, for instance, were singularly effective associations, while of the many large stands we would select those of American Pillar, Hoosier Beauty, Golden Ophelia, Ethel James, Richmond, Ophelia, Mrs. Henry Morse and Lady Hillingdon for their great decorative value. The same high quality and tasteful association were present in the second prize arrangement of Messrs. B. R. Cant and Sons, and in this were to be seen generous stands of such as Lady Pirrie, Christine and Paul's Scarlet Climber at the back, while in front were Emily Gray, K. of K., Flame of Fire and very many others.

High quality and skilful arrangement were continued in the smaller though still large groups. Messrs. Chaplin Brothers had veritable masses of bloom with such sorts as Golden Emblem, Paul's Scarlet Climber, American Pillar, Mrs.

BRANCHING IN TULIPS

BRANCHING has been very much in the limelight this last season. The abnormal summer of 1921 seems to have upset a great many Tulips, and it has been quite a common occurrence to find on a plant in place of the usual orthodox single flower as many as three, four and five. Letters have reached me asking if I can account for this strange behaviour, and enquiring if this newly acquired habit is likely to be permanent. My answer to the last question is in the negative. Experience tells me that although "branching" is in the blood of the Tulip family, as, for example, in some species like *praestans* and *dasystemon*, it is unusual in the great majority of garden varieties. The first question is not so easily answered. Unfortunately, I cannot remember if the hot summer of 1911 had a similar effect upon Tulips that that of 1921 had. Artificial warmth when the bulbs are out of the ground is nowadays not infrequently applied to retard their blooming the following year, but I have never heard that it caused the phenomenon of "branching." This seems to suggest that it was not the heat alone that caused it in 1921, but that the sun was an all-important factor. Again if, as I am inclined to think possible, there has been a branching strain of garden varieties ever since the primeval days when hybrid Tulips first reached Western Europe—that is, roughly speaking, somewhere about 1550 to 1560—it is anything but a novelty to meet with them now. On page 143 of the "Rariorum Plantarum Historia" of Carolus Clusius, published as early as 1601, there is a good representation of a branching Tulip which, if it is that of a hybrid, supports my supposition. If this be so, what we then want to know is if its branching depended on cultivation, as it undoubtedly does in the case of Monsieur S. Mottet. Starve it and there is little or no branching. Feed it on good fare and the branching is very marked. Thus branching may be the result of the stimulation of either a dormant natural propensity or a latent partly acquired habit brought about by a most abnormal season. The branching of species is naturally a subject of great interest. All that need be said now is that as far as my experience goes they follow the rule of the hybrids and that the largest bulbs produce plants that branch the most.

Coming, then, to the branching of garden hybrids, there seems little doubt that it has been known to Tulip-growers in Western Europe from

a date within fifty years after the coming of the Tulip from the East, if the picture in Clusius is that of a hybrid. From 1601 onwards pictures of them appear in "flower" books from time to time. An example of peculiar interest is to be found in the "Livre Nouveau De Fleurs," published at Paris by Baltazar Moncornet in 1645. The pictures of flowers were intended for models for workers in gold, so it is only in a secondary sense a "flower" book. Here, however, we find two distinct examples of branching Tulips, one with egg-shaped, round-topped blooms and the other totally different, as the perianth segments are decidedly pointed. The egg-shaped one seems to have been inspired by the picture in Clusius, but whence came the other? I have no idea. It may have been drawn from "life," but there is no evidence one way or the other. Judging from the other flowers in the book, Moncornet certainly did not go in for depicting monstrosities or very out-of-the-way flowers, hence the presumption is that branching Tulips were fairly well known in his day. We pass on to 1771, when we find in "The New Gardeners' Dictionary" of John Dicks another picture of a branching Tulip and in the letterpress a full description of its appearance. Somehow the illustration suggests the "Historia" of Clusius as its inspiration, and as the author's description of the plant in the letterpress is not altogether convincing as to whether it is taken from some book or from his personal observation, one rather wonders if there really were such Tulips in gardens in the last half of the eighteenth century. The name in Dicks' book—Cluster Tulip—seems to be a very happy one, and I wish it could be brought into common use to describe the race of hybrid "branching" Tulips. We again pass over a century and come to a coloured illustration of a double-flowered branching Tulip in the *Revue Horticole* for February 1, 1882. This is inscribed "Tulipe pluriflore double Roi des bleus." We see there portrayed a plant with a fasciated stem which divides into five separate ones, and at the end of each a flower much after the style of the popular Blue Flag, but of a deeper and redder shade of purple. In the letterpress a short account is given of the work of M. Marel Foulin and of M. Thiébaud-Legendre, and the writer asks, is it worth while trying to rear races of Tulips which will permanently take on this branching habit. "Ya-t-il avantage à multiplier les Tulipes pluriflores? Nous le croyons." Partly from a scientific and partly from a practical garden point of view it is, he thinks. From 1882 we pass to 1922. In the month of May in the present year a flower-basket full of magnificent stems of a deep purple Cluster Tulip arrived at my house from M. Bony of Clermont-Ferrand. Although they had been just a week on the way, they were, thanks to careful packing, still fresh enough to give one a good idea of what they were like. M. Bony's plants are tall, strong growers, and again to quote from the *Revue Horticole*, "une seule tige coupée à un certain état de floraison constitue un bouquet tout fait." M. Bony once by great good fortune found a Tulip in an old French garden which regularly threw up a branching stem. From this he has been able to breed various varieties which, like it, permanently shew the same habit under congenial conditions of culture. The one that is most widely known is that named Monsieur S. Mottet, which I must have had in my garden for at least ten or eleven years and which I find never fails to branch if the bulbs are large enough and if the ground in which it is planted is sufficiently good. Thanks to the kindness of M. Bony, I had in my garden, just before the war began, a second branching variety, but I am sorry to say something went wrong with it and it died out, so I

am unable to speak of it as a growing plant. It had, I think, a red and yellow flower. One year I sent M. Bony some of our best Cottage and Darwin varieties for the purpose of hybridisation. Then the war came and for a long time I heard nothing from him or about him. The basket, followed by a long letter, that arrived in May, was a most welcome and pleasant surprise. It told me that my friend is "alive and kicking," and the good work is still going on at Clermont-Ferrand. The wise man never prophesies until after the event, so I will only say that if M. Bony can manage to give us various self-coloured varieties with the habit and general look of

Monsieur S. Mottet (egg-shaped, white, which flushes), he will have conferred a lasting benefit on those of his fellows who, like himself and myself, are lovers of the Tulip. It is but fair to say that in normal years it is only the big, well nourished bulbs that produce the fasciated stems of the Cluster Tulip. After 1921, it is true, quite small bulbs sent up the same fasciated stems, but happily for most other plants such years do not come very often, and even for these Tulips it is unnecessary that they should do, seeing that good cultivation and big fat bulbs produce similar results in a pleasanter way in normal seasons. JOSEPH JACOB.

THE MULLEIN MOTH

An Enemy of the Mullein and Buddleia

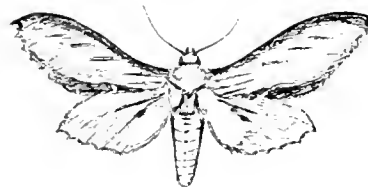
DURING the months of June and July the larvæ of the Mullein moth, *Cucullia Verbasci*, are likely to attract attention, when various species of *Verbascum* and *Scrophularia* are liable to be almost defoliated by the pest. The leaves of *Buddleias* also sometimes shew evidences of its presence.

The moth, which has a wing expanse of from 1½ ins. to 2 ins., is on the wing in April and May, when it oviposits commonly on *Verbascum Thapsus*. It is one of the group of moths known as "Sharks." The forewings are "pale wainscot-brown shaded with reddish brown, and with a rich mahogany or dark chocolate stripe along the costal and dorsal margins. Hind wings white shaded with reddish brown, hind margin strongly crenulated." (Barrett, "British Lepidoptera.")

The moth is a strong flyer, and probably feeds on night-flowering plants and trees, since it is rarely, if ever, seen on the wing by day. It has, however, been found resting on dead twigs and bark where it is only difficultly noticeable, so completely do its form and colour harmonise with the surroundings. It is found in the South-East of England, but is more common in the West, both in Wales and its borders and in Devon and Cornwall, where, on the sparsely wooded uplands, the Mullein thrives.

THE CATERPILLAR.

The larva is a very handsome and striking one. It is described by Barrett as "Stout, rounded,



THE MULLEIN MOTH (NATURAL SIZE).

smooth, and with a few short, scattered hairs. . . . head small, yellow, spotted with black; body greenish white with a broad deep yellow transverse band on each segment from spiracle to spiracle; on each segment are also four large black dorsal spots, the second pair larger and elongated laterally; sub-dorsal line represented by two black spots and two black transverse lines on each segment, spiracles black. . . . legs and prolegs yellowish, the latter marked in front and the former behind with black."

The larvæ feed quite openly in bright sunshine, and in favourable weather grow very rapidly. The writer has seen a plant of *Verbascum* 6 ft. high completely defoliated by nearly mature larvæ in about two days. The plants most frequently attacked are *Verbascum Thapsus*, *V. pulverulentum*, various wild and cultivated *Scrophularias* and certain species of *Buddleia*. The larvæ may be found in June and July, the



LARVA (SOMEWHAT REDUCED).

duration of this stage varying according to the weather, development being retarded when it is cold and dull. When fully fed the larvæ measure from 1½ ins. to 2 ins. in length.

THE PUPAL STAGE.

When mature the larvæ burrow down into the soil to a considerable depth, where, with layers of earth and silk, large-sized cocoons are constructed. The larvæ then become quiescent, gradually contract and finally pupate. The pupa is from reddish brown to dark brown in colour. The duration of the pupal stage is very variable, some adults emerging the following spring, but others not coming forth for two, three or four years, hence the depth at which the pupæ are buried will afford considerable protection.

OCCURRENCE OF THE PEST.

Owing to a variety of natural causes which keep pests in check a periodicity in epidemics is noticeable, and if any particular pest is carefully observed over a number of years it will be seen that it recurs again and again at more or less regular intervals. This probably occurs in the case of Mullein moth. Thus in 1916 and 1917 there was a severe outbreak in the Forest of Dean, when practically every Mullein plant was seen to be attacked. Since that time little attention had been attracted to the pest until 1921, when it shewed a sudden increase in numbers, and now in 1922 reports of attack are received from Devon and Cornwall, the Bristol area of Somerset and parts of the Forest of Dean.

Mulleins, both singly and in groups in herbaceous borders, are liable to attack, and unless the closest attention is paid to the plants, the development of the attack may not be noticed until it is almost too late.

PREVENTIVE AND CONTROL MEASURES.

Very little is known about the natural enemies of the Mullein moth, though it is undoubtedly checked by various insect parasites. The larvæ feeding in bright sunshine would appear liable to be attacked by birds, and some authorities hold that birds are an important factor in destroying them. Barrett states that they are distasteful to jackdaws, and it is quite possible that they may be so to other insect-feeding birds. The larvæ are protected to some extent by their nervous excitability, for they throw themselves off their host plant and curl up in the denser vegetation below at the least touch or jar.

Where Mulleins are grown for commercial purposes this pest is of special importance, but the destruction of ornamental groups in border or wild garden is sufficiently annoying.

Where only one or two plants are attacked hand-picking the larvæ will probably be the most satisfactory treatment, but where an extensive attack is in progress spraying with arsenate of lead is the most efficacious remedy. The poison should be obtained in the paste form and used at the rate of 4lb. of lead arsenate to 100 gallons of soft water. If needful, a little soft soap may be added to give additional wetting power to the spray. HERBERT W. MILES, N.D.A.

the plant at Kew have only met with partial success. It may therefore interest readers of THE GARDEN to know that on June 24 I saw a plant of this beautiful shrub in perfect health and laden with its heath-like flowers on a south wall in the gardens of Admiral Milne, Inveresk Gate, Musselburgh.—CHARLES COMFORT.

NOTES ON THE SUMMER ROSE SHOW.

SOMETIMES the views of an "outsider" are welcome as coming from a standpoint that has at least no personal bias. The Rose Show at the Botanic Gardens in Regent's Park had so many admirers that I think they cannot all be experts in the matter of Rose growing, and really the show was so fine and the Roses so superbly well grown and well fed that I think a note of warning as well as admiration may be not unwelcome! When gazing at these fat and well fed blooms, with petals often carefully curled back and sheltered no doubt from rain and wind, how few admirers realise that such perfection is not to be attained by the ordinary grower, who

CORRESPONDENCE

SILVER-LEAF DISEASE.

I WAS much interested in the note by Mr. W. F. M. Copeland on this subject in THE GARDEN, issue July 1, page 310, as the letter referred to by Mr. Copeland was mine. Further, I am very pleased to learn that someone else troubled with the pest has benefited. I know of another case also where true silver-leaf has been got rid of by using soot as I recommended. My case, as stated last year, was, alas! true silver-leaf and testified to by such experts as Messrs. Rivers and Messrs. Dicksons of Chester. I felt sure myself, but thought it well to have the opinion of more expert cultivators. I had it. My tree, treated as I stated, was cured, and again this year it has made wonderful growth and is bearing a big crop of fine fruits. Throughout the winter soot was applied. Mixing soot with water in a bucket "a nasty job?" Not a bit of it if the work be done the right way. First mix a small quantity of soot and water and add more of both till the bucket is full and the mixture of the consistency of mortar. But it does not matter as long as the soot is washed down to the roots freely how it is applied. The soot induces a wonderfully free growth, too, and the foliage is not readily attacked by red spider.

With regard to canker in Apple trees, I may say that I have cured them when in a bad condition from it. In fact, one, a Cox's, had a hole right through the stem at the junction of branches and stem when I had finished cutting away the cankered parts. The wounds were then dressed several times with pure Fir tree oil and the roots also pruned. The following year the tree bore about half a bushel of Apples and the bark eventually entirely filled up all hollows made by the severe cutting. Very old cankered trees I should not trouble to treat, but should plant young trees instead.—GEORGE GARNER.

COLOUR IN THE GARDEN.

HOW often it happens in the garden that a colour plan is more or less of a disappointment and an accidental arrangement a brilliant success! This dry summer has seen the failure of many winter-planned combinations, but one great success that has given me much pleasure is a grouping of red Mountain Spinach (Orach) with orange Cheiranthus Allionii, self sown. Messrs. Thompson and Morgan of Ipswich sell the Orach seed. Sown in patches between other tall plants it needs no support and looks like some large kind of Prunus Pissardi.—ETHEL CASE, Swanage.

RABBIT PROOF PLANTS FOR WILD GARDEN.

MY experience, such as it is, may be of use to some of your readers who are contemplating starting a wild garden. The following

are plants which rabbits do not seem to touch: Arundo Donax, Astilbes, Aralia edulis, A. spinosa, Beschorneria yuccoides, Eremuri, Gunnera manicata, Kniphofia, Mulgedium, Phoradendron



A NUMBER OF THE RARE SUCCULENT BESCHORNERIA YUCCOIDES IN FLOWER; EREMURI IN THE BACKGROUND.

variety, Polygonum cuspidatum, P. sachalinense, Rheums in variety, Rodgersia in variety, Saxifraga peltata, Senecios in variety, Yuccas in variety. On the other hand, they will destroy Crambe orientalis, Fatsia japonica (Aralia Sieboldi) when young, Dracenas if they can reach the heart-leaves, Petasites giganteus and the young shoots of Bamboos. I enclose a photograph of Beschorneria yuccoides in flower, though I fear it is not clear enough for reproduction.—R. HATCE, Osmington, Weymouth.

[The Agave-like Beschornerias are hardy only on the seacoast, and it is not too generally known that they are hardy there. Johnson's Gardeners' Dictionary, even in the latest edition, describes them as warm greenhouse succulents. Perhaps by continued acclimatisation they may ultimately come to be hardy inland. All the species hail from Mexico.—ED.]

A RARE SHRUB.

IN THE GARDEN for July 1, page 320, "Somersetshire" writes about a plant of Fabiana imbricata growing on a south wall in a stable-yard in Somersetshire. In the Editorial note appended it is stated that attempts to acclimatise

has room in his heart but not room enough in his garden.

Yet none the less we may in our smaller degree strive after perfection, and it we have not achieved it in past days with the old Roses may we not hope to do so with the new ones? So let us gaily admire these new arrivals and note that in some cases the growers have dug up a strong young plant to shew its strength of growth or vigorous constitution—a welcome step in advance of old days. I fear, however, that the stumpy growths of such lovely Roses as Mrs. H. Moore or Florence Forrester are not *en evidence*, and the fine stand of that perverse Rose Bessie Brown, every flower of which must be tied up with wire lest it hang like a Snowdrop, is not the only instance of a Rose which is not for the ordinary Rose-lover!

The Rose reporters will tell of the awards made. I merely mention the Roses that took my fancy. There may be others still better, but the following seemed to be of outstanding interest. Of all the new red Roses shown, Captain Kilbee Stuart seems to me to be the best all round. Bright and fresh in colour, good in shape, sweet scented and of good growth. It seemed to

me as good as that fine American Rose Hadley, which is several shades deeper in colour but of the same style and excellence (I suppose it is not yet ready, as I saw no blooms shown that day). Were other folk as much disappointed as I was with the red Rose named Prince of Wales? I always feel as if a Rose should not be named after a special celebrity or favourite without due authority and consideration. I am reminded of a French friend's warning, "Never buy a Rose named after a celebrity, but when a Rose is named after another Rose grower or his daughter you may be sure it is good," and the advice holds good, I think, still.

However, Lady Roundway, Mrs. H. Bowles and Emma Wright are three such glorious Roses of orange or bright pink that I think we must all hope to have them in our gardens some day. I hear that fine but rather uncertain Rose Gorgeous is one of their parents. I must say the daughters are still more lovely than the mother. Ruth and Miriam are also to be commended. The only pity is one cannot yet say which is the best. I was interested to see the creamy white climbing Tea Rose Muriel Wilson shown so much "fatter" and more solid in petal that when I saw it on the Riviera that I felt more than ever convinced one cannot judge a Rose at one sitting. Kallisto also, which last autumn was so glorious in colour, was this day quite dull and commonplace. The table decorations alone were below the usual standard, but the setting of the Show in the Botanic Gardens was much enhanced by the greatly improved conditions of the gardens and the flowers growing there. Much praise is due to those who have achieved it.—E. H. W.

A SUGGESTION FOR EXHIBITORS.

I WAS pleased to see the charming illustration of a tropical pool as "a suggestion for exhibitors," by Mr. Brown, which appeared in THE GARDEN of June 10. I have myself suggested the construction of such a tropical pool for Chelsea. One of my earliest recollections is just such a rocky pool in a house where my grandfather grew exotic Ferns, for which he was awarded the R.H.S. silver medal in 1846. In the foreground at the sides of the pool there were some graceful Palms and a particularly fine specimen of a Date Palm which almost reached the roof. In the middle distance, growing in niches of old red sandstone rocks which rose to the height of about 6ft. were various large Ferns, Lycopodiums and *Monstera deliciosa*. The back wall of the house was completely covered with smaller Ferns, chiefly self-sown Maidenhairs. To the left of this wall a low water-tall twisted, splashing among the rocks, giving a pleasing movement to the water in the pool, from which rose the leaves of giant Caladiums. The most striking feature of the little picture was given by the plants which grew overhead. The rich mauve clusters of *Todea* mingled with the blossoms of a large tropical Passion Flower. Crimson *Taonia* flowers swung at various heights on their long threadlike stalks, like lanterns, almost to the surface of the pool, and among them their fruits, ranging from green and citron to all tones of yellow and orange. The glass of the roof for about 10ft. from the back of the house was darkened, giving great distance to the picture, but when I knew it this artificial shading was rendered unnecessary by the growth of a large India-rubber plant. Should such a scene ever appear at Chelsea, as I hope, I should like to add the beautiful blue-flowered *Nymphaea*, the Indian Lotus (exquisite both for leaf and flower) and introduce a large Banana or two in place of one or more of the Palms.—H. H. WARNER.

AN INTERESTING PARASITE.

ANOPLANTHUS COCCINEUS is a remarkable parasite belonging to the Broomrape family which grows on the roots of various plants but chiefly on those of *Centaurea dealbata*, in which case the beautiful silvery foliage of the host plant acts as a delightful foil for the large velvety flowers, which are of a brilliant scarlet colour. They are about 2½ ins. in diameter, and are borne singly on reddish brown stems 12 ins. or more high. These stems are naked, with the exception of two or three bracts on the lower halves. The flowers, which resemble those of a giant *Lobelia*, are five-lobed, with two upper and three lower lobes, the latter forming a lip at the base of which is a large black blotch. The seeds from which the plants here illustrated were grown were originally received from Tiffis Botanic Garden. They were sown, at Kew with those of the host plant, in a pot. Only the *Centaurea* appeared the first year, and this was planted out in the bed. Nothing else appeared for two years, when in May several stems of the *Anoplantus* were noticed, each



AN INTERESTING PARASITE, *ANOPLANTHUS COCCINEUS*.

with a solitary flower bud. These developed, and the flowers opened towards the end of the month. Owing to the dry weather this year the flowers did not last long, but it is a most attractive plant when in good condition with its intense scarlet blooms. After the first year two or more flowers appear annually, so that it may be called a perennial.—W. L.

THE ROTATION OF CROPS.

MR. LODGE (page 204) has opened up an interesting subject. It has appeared to me that the theory of rotation of crops has been copied automatically from one vegetable book into another, and that it requires criticism and revision. I have been surprised to see it treated as an easy thing to do, and taken so for granted. It is easy to write the names of a lot of vegetables in little squares, but to work it out in detail on the ground is another matter. The suggestions in my article in the issue for April 29 as regards a few crops are based on my own practice, and I hoped might provoke some remarks on cropping.

Some crops that require special preparation, such as Onions and Peas, are already often grown year after year on the same ground, but I cannot see any wisdom in disregarding any system of

rotation. No two crops exhaust the food constituents of the soil in quite the same manner, and in spite of Mr. Lodge's conviction, there must be increased danger of infection from any pest that has done much damage the previous year, such as Onion mildew, Pea weevil or Cabbage aphid. The case of "club" is notorious. But I have long wanted to know whether a two years' interval between crops of the Brassica tribe is necessary in a garden free from "club" but in a locality where "club" is prevalent, provided great care is exercised over the seed-bed. The chief difficulty of a three-year rotation lies in the all-pervasive Cabbage tribe unless a good deal of the ground carries only one crop in the season.

I cannot see that for roots to succeed Brassica infers poor cultivation. You may dig three spits deep if you will, and leave all three in the same relative position with regard to each other. Now, if you grow Long Surrey after Broccoli, the roots certainly go down into a level below that occupied by the previous crop. But on the way down and during that hazardous period of youth the

Carrot goes through soil exhausted by the Broccoli (the spit) having been more or less reversed in digging, and if an intermediate Carrot or Beet is grown, it does not penetrate to the second spit at all. "The rising of moisture in the soil" occurs only in dry weather. In wet weather the reverse is the case, and the nourishment of the plant would then come from above and from its immediate surroundings.

The advantage of the "over-glorified" Dutch hoe depends partly on its make. The blade is best nearly in a straight line with the handle. Like other tools, it depends also on the user. I have observed that it is not everybody's tool—the draw-hoe man often does not understand it.—G. PRICE-DAVIES.

THE AFTER EFFECTS OF THE DROUGHT

I WAS pleased to see the reference to "the after-effects of the drought" in THE GARDEN of June 24. Never have I seen such sprays of Forsythia and of the Pink Double Plum (*Prunus triloba*) and such a wealth of blossom on the Lilac, Mock Orange and Weigela. I have also had the baby Tulips in flower, to which other correspondents have referred. Mention should also be made of the profusion of flowers on the Rock Roses in, I think, every variety. Last week I visited the ancient Fig garden at West Tarring, where the remains of the tree planted by Thomas à Becket in 1102 are still carefully preserved. There are about a hundred Fig trees in this garden, and they are carrying a heavier crop of fruit than any previously recorded. The varieties chiefly grown are the Brown Turkey Fig and the large pink-fleshed Madagascar. On reaching Ventnor, where Figs are largely grown, nearly every tree was bearing a record crop. There is no doubt about this tree being a lover of heat, but it also seems able to withstand a long period of drought,

which is just what one would expect, considering its original habitats. The fine show of fruit is worth recording, and some is now ripe and being offered for sale in the town of Worthing.—H. W., *Worthing*.

LYSICHTUM CAMTSCHATCENSE.

I WAS interested in two references in your issue of May 27 to this plant by Lady Moore and Mr. A. T. Johnson. I recently received some plants of what is commonly known in British Columbia as Skunk Cabbage from a cousin living at Milne's Landing, near Victoria, who wrote me that it is there a very common plant in marshes and uncleared ditches. He further tells me that bear use it as a spring medicine as soon as they come out of their winter sleep, perhaps in the same way that dogs eat a species of grass, which I believe is Couch Grass, mentioned by Culpeper in his Herbal as Dog Grass and having certain medicinal qualities. This may be the origin of its local name. Can anybody tell me what are the medicinal qualities in *Lysichitum*? If bear use it, there is a possibility it may have some value for human beings. I wonder if someone who grows this Arum would give it a trial. My own plants are not sufficiently advanced to do so. The leaves, however, look very succulent and tempting. On the other hand, there grows in Perthshire a wild plant with a similar leaf, also known there as Skunk Cabbage. Perhaps some Scotch or Highland settler gave it this name for its similarity in leaf to the British plant. The young unfolded leaves are very similar in appearance to a spring Cabbage. How in Scotland comes the word Skunk unless it might be the ancient name for bear? My plants arrived in perfect condition packed in damp moss after a three weeks' journey, and they began to grow away at once, but the leaves were badly cut during the recent frosts. I should think that it may not be absolutely hardy in the South of England, and evidently requires a moist position where the morning sun does not reach the young spring growth. There are plants at Kew.—EDWARD SHOOSMITH.

[The Skunk Cabbage or Skunkweed of North America is *Symplocarpus foetidus*. All parts of the plant have a disagreeable foetid odour thought to resemble that of the animal after which it is named. The root is the part usually employed in medicine. It has an acrid taste and is regarded as stimulant, antispasmodic, narcotic and expectorant. The drug may be obtained from herbalists in this country. We cannot trace the name Skunk Cabbage as applied to *Lysichitum camtschatcense* or to any British plant.—ED.]

MICE AND VOLES IN THE GARDEN.

AT the beginning of the year you published a letter which I wrote advocating the use of the Colin Pullinger Balance Mouse Trap for catching long-tailed field mice and bank and field voles in the garden, so I am writing to let you know that a few weeks ago I purchased half a dozen of these traps, and on unpacking the parcel my attention was arrested by the angle of the balance, which was much more acute than I was accustomed to see it. On examining a trap more closely I found that instead of it being pivoted about one-eighth of an inch from the ground level, it was pivoted half an inch from it, thus accounting for the acuteness of the angle. I at once communicated with the makers, Messrs. Duke, Waring, Crisp and Co., 139, Wardour Street, London, W.1, and pointed out to them that at the angle of the balance in the trap sent to me, a mouse on the balance when feeling it begin to move would have time to retreat to the entrance before the

balance had passed the centre of gravity, whereas in the original Colin Pullinger trap the angle being much less acute, the weight of the mouse had carried the balance beyond the centre of gravity before the mouse had time to get back to the entrance. The firm are extremely sorry for the mistake which their workman has made, but they have no knowledge as to when he began to depart from the original model, and therefore cannot tell how many traps have been sold since the alteration in the pattern was inadvertently made. They are most anxious to do all in their power to rectify the mistake and are re-pivoting traps returned to them which

have been thus improperly put together. I am writing to mention what has occurred, for the traps as sent to me were practically useless, and unless the mistake is rectified a most efficient trap will fall into disrepute. The head of the firm came to see me about the matter and told me that they were examining their stock to rectify the mistake. He mentioned incidentally that one evening some altered traps were left on the bench and in the morning it was found that, although unbaited, two of them had each captured a mouse in the night, the mice probably being attracted to the bench by the crumbs from the workman's tea.—T. MARK HOFFEL.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Carrots.—It is an excellent practice to make a sowing about this time to provide some delicate young roots for autumn and winter use. They may safely be left in the ground, for should the weather be very severe a little dry straw or bracken may be strewn over the bed. For this sowing it is best to select a quick-growing early Short Horn variety, and the necessary thinning of the seedlings should be done in good time. Some growers scatter the seed broadcast for winter, and on a clean soil the plan is to be recommended, because plants strewn over the whole surface of the bed undoubtedly do lend a little protection to one another during severe weather, but on weedy soils the seed should always be sown in drills.

Celery.—Plants from the first sowing will need a little soil drawn up or the adjusting of the paper bands if blanching is carried out with the aid of these. Before doing such work all sucker growths should be removed and the plants be thoroughly watered the day previously if at all dry. There is nothing to gain in being in too great a hurry with the blanching unless the plants are required by an early date. The chief point is to keep the plants growing clean and healthy, and upon no consideration must the maggot be allowed a footing. Regular light dustings of old soot applied during the evening after the plants have been sprayed is one of the best antidotes to this pest. Any delay experienced in getting later batches into their places should be made good as soon as convenient, keeping the plants in the meantime well cared for.

Outdoor Tomatoes.—The warm weather gave these a good start and considerable growth has been made. Restrict all side growths and thus confine the plant's energies to one stem. Feeding the plants is not to be recommended until several trusses of fruits are secured and swelling, or too much leafage will be encouraged.

Cucumbers.—Some seed should be sown at once to provide plants for autumn fruiting and some again in about another month's time to supply plants for winter bearing. Keep the plants in full cropping well supplied with moisture both at the roots and atmospherically, and cut all fruits as soon as large enough to use so as not unduly to weaken the plants by carrying them too long. The fruits will keep in good condition for a week in a cool cellar in a little water.

The Flower Garden.

Carnations of the Border section may be layered at any time from mid-July until the middle of August. A light, gritty compost is the best medium for the layers to take root in, and it is a good plan previously to placing this in position to loosen the surface soil a little round the old plants. Make a clean cut on the underside of each selected shoot and press the tongue formed into the soil and make it secure with a peg. Give water from time to time through a fine rose, according to the weather conditions.

Pinks.—Cuttings or pipings of all varieties of Pinks will root readily if inserted in a sandy soil in a cold frame, which should be kept shaded until root action has commenced. Keep the frame fairly close at the commencement, but give abundance of air when roots are formed, finally removing the lights and so make sturdy stock for autumn planting. The plants now popularly known as *Allwoodii* may also be readily increased in this manner.

The Hardy Fruit Garden.

Budding Fruit Trees.—Whether it is desirable or profitable to carry out this operation in private gardens everyone must judge for themselves. Personally, unless it is dealing with some special variety, I do not think it is when plenty of firms, which regularly advertise in the pages of *THE GARDEN*, offer trees to suit any position at prices which it is fair to state must be considered reasonable. July and August are the best months for the work, when bark and sap are in a responsive condition. Of the several different methods of budding, that which is spoken of as the T method is to be recommended. When carrying out the work it is essential to have everything ready so that as soon as ever the bud is made and fitted into the T cut a little damp moss and broad raffia strands are at hand to finish the job. Choose buds from the half-ripened shoots of the present season's growth. Wood buds are distinguishable by being more pointed and thinner than fruit buds.

Fruit Under Glass.

Melons.—Seed must be sown at once where a late crop of fruit is required. This batch of plants must be grown where plenty of pipe heat will be available when required at a later date. Make the bed thoroughly firm and place a couple of seeds at intervals of 20 ins. apart on the bed, removing the weaker seedling as soon as such may be determined. Make the utmost use of all bright weather to bring the plants quickly along into a bearing condition, and as soon as two or three fruits are secured on each plant concentrate the plant's energies upon the speedy development of them to a useful size.

H. TURNER

(Gardener to the Duke of Northumberland).
Albury Park Gardens, Guildford

FOR NORTHERN GARDENS.

The Kitchen Garden.

Spring Cabbage.—Make a first sowing of early Cabbage on one of the borders that has been cleared of early crops. The seed-bed should only be moderately rich. Do not sow thickly, taking every precaution to see that the plants are not allowed to become drawn or weakly in the bed. Suitable varieties for autumn planting are Sutton's Flower of Spring, Harbinger and Eilan's Early.

Herbs.—Seedlings of various herbs raised this summer should now be planted out in nursery lines from which permanent beds may be made next spring. Water the seedlings thoroughly if the weather is dry and shade with a few Spruce branches until growth commences.

French Beans.—Encourage this important crop by placing light mulchings of half-rotted manure on each side of the rows. This treatment is especially advisable on light, hungry soils, the plants responding quickly and producing fine crops of tender pods. Water freely during dry spells, giving occasional applications of liquid manure.

Fruit Under Glass.

Fruit Trees in Pots.—Extreme care must be exercised at this time in the watering of the various fruit trees in pots or tubs. Trees bearing heavy crops should be liberally assisted with top-dressings and liquid manure, varying it at times with chemical manure. As the fruits approach the ripening stage feeding should be withheld, as there is always a danger of spoiling the flavour of the

fruit if feeding is overdone. More especially is this applicable to Peaches in their final stages.

Vines.—In houses where the Grapes are beginning to colour a good watering with liquid manure may be given, while all superfluous laterals should be pinched off so that the berries may be induced to swell further and finish well. Where Madresveld Court is grown a certain amount of lateral growth may be allowed to remain, as this to a certain extent is a safeguard against the splitting of the berries.

Young Vines.—Encourage these to make vigorous growth by giving generous attention in the way of watering and syringing the rods. Close the house early so as to conserve sun-heat. Allow the laterals to grow freely so long as there is no over-crowding, and stop the leader when it nears the top of the house. The basal buds will then plump more readily.

The Hardy Fruit Garden.

Newly Grafted Trees.—Look over these occasionally and close up any cracks that may be showing in the wax or clay. As the young shoots on the scions begin to lengthen, support by nailing them to neat canes, which should be tied firmly to the stem or branch.

Morello Cherries.—Except where the trees are grown in bush form no summer pruning is required for Morellos. It is well known that this luscious Cherry bears its finest fruit on the young wood, but a little judicious thinning out of superfluous or weak growths will be advantageous, although the Morello will bear a closer lay in of young growths than any other wall tree. Pinch the points of the growths of trees grown in standard or bush form.

The Flower Garden.

Border Chrysanthemums.—Stake and tie beds of these in good time, as when once the growths of Chrysanthemums are allowed to fall over and get bent they never seem again to attain that symmetry of form which is necessary in the formation of a well grown plant. Hoe the ground freely between the plants and stimulate growth at the same time by giving a light dusting of artificial manure.

The Rose Garden.—Where light soils prevail heavy waterings will be necessary during lengthy periods of drought. Where liquid manure is available it should also be applied freely, more especially when the soil is in a moist condition. This feeding not only prolongs the season of flowering, but makes an enormous difference in building up strong plants for the ensuing year. Remove all faded blossoms and maintain the beds and borders in as trim a condition as possible.

JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.).

Coatham, Kilmarnock.

GREENHOUSE AND CONSERVATORY.

Aotus gracillima.—This beautiful Australian shrub is worthy of more general cultivation for the cool greenhouse and conservatory. Its long, slender shoots wreathed with small yellow flowers with dark blotches are always very much admired. It may easily be propagated now by means of small twiggy shoots inserted in pots of sandy peat, and these root readily if stood under a propagating glass in a cool greenhouse. When rooted they should be potted off singly into thumb pots, and when they are established in the fresh compost, they should be pinched once, and two or three shoots selected and run up some 24ft. high, pinching them at this height to form a head, as the beauty of this plant is best displayed when grown in the form of a small standard. The young plants should be potted on as they require it until they are in their flowering size (7in. pots being large enough for this purpose). After the first potting, which should consist of sandy peat, it is well to add some light loam to the potting compost. For the final potting it should consist of at least half loam, with the addition of good fibrous peat and enough coarse sand to render the whole porous. This is a fine plant to put out in a bed in the cool conservatory.

Prostanthera rotundifolia is another beautiful greenhouse shrubby plant which produces its small purple flowers in great profusion. It is readily propagated at this time by means of small twiggy shoots in the same way as advised for the Aotus. When stopped several times it makes a neat, bushy plant for the conservatory stage. After the final stopping some eight to ten strong shoots should be allowed to grow away for flowering. Some young stock should be propagated

each year, for when grown in pots it does not break readily after being out back. Good flowering plants can be grown in oin. pots. Planted out in a bed or border in the cool conservatory it makes a fine large bush, and stands pruning back much better than when pot grown. It should be pruned back when it finishes flowering, about the beginning of June. This plant is nearly hardy, and should be grown on a warm wall in the South and West.

Olearia Gunniana, although hardy in sheltered positions in the South and West, is, in the colder parts of the country, well worth growing for the cool greenhouse. It is easily propagated at this season by means of short, half-ripened shoots, which root readily in sandy soil under a bell-glass in a cool house. The plants flower freely in quite small pots, and should be pinched frequently in the young state to induce a bushy habit. They grow quite well in ordinary potting compost. This plant is generally known as *O. stellulata*, but differs from the latter plant in having larger and whiter flowers.

Olearia ramulosa is also a graceful and attractive plant for pot culture. Well grown examples are very beautiful with their slender shoots covered with small, starry white flowers. This plant is seen to best advantage when run up fairly tall, as the slender drooping shoots are then displayed at their best. To attain this the young plant should only be stopped twice; then about three shoots should be selected and tied up to a neat stake. Although this plant is easily rooted by means of small, twiggy shoots, it is by no means such an easy plant to cultivate successfully, as is *O. Gunniana*. It grows quite well in light, medium loam with the addition of a little leaf-soil, with enough coarse sand to render the whole porous, but it must never be overpotted, and requires careful watering at all times.

Campanula Vidalii.—This unique-looking Campanula is a native of the Canaries, and is very useful for the conservatory, as it flowers during August, at a time when it is very difficult to get a variety of interesting plants for the flowering house. This plant can be propagated by means of the side shoots, but stock is best raised by means of seeds, which may be sown at this time. As the seed is very fine, the pots should be well watered some time before sowing. The seed should be covered with a sprinkling of fine sandy soil. The young plants should be potted on as they require it, and may be grown throughout in a cool greenhouse or even in a cold frame. Although this plant will produce a few flowers in its second year, it is at its best during its third year. For this reason some young plants should be raised every year, and thus keep up a regular succession of flowering plants.

J. COURTS.

Royal Botanic Gardens, Kew

BOOKS

A BOOK ON DAHLIAS.—The Dahlia is even more popular in the United States than it is in Britain, so that it is not surprising to find that the quite bulky volume on this flower just issued* hails from across the Atlantic. Mrs. Stout has the right to be considered something of an authority on this very useful flower. She has, indeed, raised several excellent varieties. As Mrs. Stout herself points out, the Dahlia has every title to the specific name *variabilis*, for it is surely among the most variable of flowers. It is immensely affected by climatic conditions and by environment, so that varieties quite admirable here in England may well prove failures in U.S.A. Certainly many sorts highly esteemed in America have proved worthless on this side.

Much of the information given in this book is necessarily special to U.S.A., and the list of varieties is naturally quite up to date as regards American introductions and a good way behind as regards British novelties. Mrs. Stout's knowledge of the extremely popular and very promising Star class is anything but extensive. Of the later introductions to this class she seems not to have heard.

Of the raising of new varieties she writes clearly and helpfully, and her remarks on the dangers

of over-propagation are well judged and worthy of study. It is to be regretted that so able a writer should confuse *variety* with *species*. She several times uses variety improperly, as, for instance, "Three of the eight varieties of Dahlias known to grow in Mexico . . ." Another rather surprising statement is "Gravel contains no food element *nor does it hold moisture*." The italics are ours, but the statement is assuredly inaccurate.

Doubtless owing to their different (and differing) climatic conditions, the Dahlia is even more highly esteemed in the United States than with us. Assuredly it is to an Englishman somewhat surprising to see it described as "the most beautiful of all flowers." It is perhaps a little unfair to pick out the startling statements from a book of high general excellence. The book as a whole was perused with interest from cover to cover, and can be heartily recommended to all who wish to improve their knowledge of an increasingly popular flower. W.

SWISS WILD FLOWERS.—M. Henry Correvon has now published a companion volume to his "Fleurs des Champs et des Bois," which he calls "Champs et Bois Fleuris." Those who are familiar with M. Correvon's works will remember the beautiful coloured plates by Mlle. S. Rivier with which many of them are adorned. The volume under notice* has seventy-five such plates, all excellently drawn and coloured, many of them, of course, depicting wildings more or less common in our own fields and coppices. With the seventy-five entirely different plates in "Fleurs des Champs" these make an invaluable set depicting more than 200 species of lowland wild flowers.

Turning now to the letterpress, in his first chapter the author shews himself as at once an ardent upholder of the theory that real happiness is to be found only in physical endeavour. He confesses himself an uncompromising opponent of alcoholic beverages and tobacco—even of the theatre! His prescription for the salvation of the human race is work and mountain climbing! Whether one wholly agrees with the author's reasoning or not, one can but be charmed with the vigour and charm of his writing and his evident sincerity; indeed, the very real personal charm of the author—"the father," as he truly calls himself, of rock gardeners—is reflected in all his writings.

Of the body of the book with its admirable descriptions of the many species indigenous to Switzerland, it is only necessary to say that it is as lucid and as helpful as "Fleurs des Champs," and gives at some length the medicinal properties and economic uses of the plants under notice. M. Correvon has many English friends, but his knowledge of our manners and customs is evidently as yet not quite complete, otherwise he would not write that we make mint sauce with *Peppermint* or take it with roast beef! English cooking is not so barbarous. The reviewer was not aware that in this country the Bog Bean, *Menyanthes trifoliata*, is sometimes used as a substitute for Hops in beer, but it may be that it is. Tansy is, of course, so used, and M. Correvon draws attention to this also. To sum up, the book is almost indispensable to those deeply interested in gardening, botany or simples, but it is so charmingly written and so free from tables, footnotes and such-like ingredients tending to "dryness" that it makes a powerful appeal to all lovers of Nature however elementary their present knowledge.

R. V. G. W.

* "The Amateurs' Book of the Dahlia," by Mrs. Charles H. Stout. London: William Heinemann, 10s. 6d. net.

* "Champs et Bois Fleuris," by Henry Correvon. Delachaux et Niestlé S.A., Neuchâtel and 26, Rue St. Dominique, Paris, 30 francs.

WINDSOR ROSE SHOW

AT the head of the Royal list of patrons of the Windsor, Eton and District Rose and Horticultural Society—to give its full title—appears "His Most Gracious Majesty the King," and one soon learns that the King is no mere titular head of the Society, for he grants permission for the annual show to be held on the slopes of Windsor Castle, gives a challenge cup for Roses that is coveted by the foremost growers in the kingdom and is also a generous contributor to the funds of the Society. It was under such high patronage and amid such historic and beautiful surroundings that the twenty-ninth annual show was held on July 1 last.

Following their great triumph at Regent's Park on the previous Thursday, when they won the championship trophy for the second successive year, Messrs. Alex. Dickson and Sons again won the King's Cup at Windsor. Their forty-eight blooms were all beautifully fresh and of splendid quality. The collection included such sorts as Archie Gray, Gorgeous, Edgar M. Burnett, Captain Kilbee Stuart, Marcella, Candeur Lyonnaise and Lady Inchquin. Messrs. F. Cant and Co., who were a good second in this well contested championship class, included characteristic examples of Gorgeous, Snow Queen, Golden Emblem, St. Helena, Mrs. G. Marriott and Mrs. J. H. Welch. Messrs. B. R. Cant and Sons were third.

As at Regent's Park, Messrs. Alex. Dickson and Sons also won the first prize for tables of exhibition Roses, and their twelve varieties were of even better quality than in the former class. Messrs. F. Cant and Co. were second and Messrs. D. Prior and Son were third.

The best twelve blooms of any H. P. or H. T. Rose proved to be a handsome dozen of Augustus Hartmann, shewn by Messrs. B. R. Cant and Sons, while Lady Ashtown by Messrs. D. Prior and Son were a close second. With beautiful specimens of Mme. Jules Gravereaux Messrs. Prior were first in the similar class for Teas, and they also won premier honours with Snow Queen and George Dickson in the class for twelve blooms each of any white and crimson Roses.

Decorative Roses set up in goodly vases are always more attractive to the general public than the show blooms on boards, and at Windsor the collections were of great merit. Mr. George Lilley had the best in the open section, while Mrs. F. W. Saunders won first place among the amateurs, and each arranged particularly beautiful vases. Mrs. Charlton, using the bright and graceful Rose Ethel James, with great taste, won the dinner-table prize.

Dr. T. E. Pallett had a great day in the Open Amateurs' Classes, for he won all three challenge cups and also first prize for twelve Tea and Noisette varieties. His collections included in George Dickson, the N.R.S. silver-gilt medal bloom, as being the best in the whole of the Show. This variety was decidedly the Rose of the Show, for it was shown in great excellence in a number of exhibits. The N.R.S. bronze medals in the local classes were won by Mr. G. A. Govett, with excellent blooms of Maman Cochet (T.) and Candeur Lyonnaise (H. P.), and by Mr. W. C. Romaine with George Dickson (H. T.), while the R.H.S. Banksian medal for the best single vase of decorative Roses was won by Mr. H. J. Stokes, with a beautiful vase of Irish Elegance. Mrs. Henry Balfour was a good winner of the first prize in the class for growers of fewer than 1,000 plants.

The Prince of Wales' Cup, offered for the best eighteen vases of Sweet Peas, has hitherto induced good competition, but this year Sir Randolph Baker had a "walk-over" with a splendid collection

and he also was similarly awarded the first prize in the class for twelve vases of Sweet Peas. In the local amateurs' classes, Mrs. V. M. Woolner won the first prize with a praiseworthy collection.

Fruits and vegetables were rather at a premium, though there were several meritorious collections of vegetables. The Sutton Special Prize was won by Mr. E. Baldwin, who had especially good Best of All Tomatoes and Sutton's Selected Duke of Albany Peas. Miss Henderson won both the Carter Special and the Society's Prizes with good collections.

The trade supported the show in a splendid manner and their excellent exhibits were a great feature. Messrs. Barr and Sons made a very attractive flower garden and Lily pool, which was greatly admired. Mr. Chas. Turner brought his customary collection of valuable hardy shrubs, many border flowers and had a delightful group of Malmaison Carnations. Mr. J. C. Allgrove set out many trained pot-grown Gooseberries and Currants and arranged a great variety of border plants, which included excellent spikes of Eremuri.

Roses were freely shewn in these honorary exhibits. Mr. E. J. Hicks had a large collection and Messrs. Waterer, Son and Crisp associated theirs with border flowers. Mr. G. Lilley contributed Roses; Messrs. J. Piper and Son included many varieties, with border flowers, and Mr. Bide set up an attractive collection of Sweet Peas.

Potatoes and Broad Beans at Reading

AT the request of the Ministry of Agriculture Messrs. Sutton and Sons allowed the expert Potato inspectors of the Board to visit their Potato trials at Reading on Tuesday, June 27. Among those present were Mr. P. G. Dallinger (Chief Inspector of the Potato Department of the Ministry), Mr. G. C. Goff (District Inspector) and Mr. G. P. Berry (Technical Horticultural Adviser). This illustrates the thoroughness and extensiveness of Messrs. Sutton's trials that they warrant the presence of the experts on the look-out for additional knowledge.

The party was first conducted by Mr. Noel Sutton through the spacious offices and gigantic seed stores. Of exceptional interest to all were the seed-cleaning machines, which were very numerous and of various designs. After viewing the seed stores the party went to the trial grounds, and were met here by Mr. Martin H. F. Sutton, who after lunch conducted them through the grounds. What interested the writer perhaps the most was the vast collection of wild Potatoes which came from such places as Chile, Peru, Mexico and Uruguay. The trials of commercial varieties included all the latest and most important varieties in cultivation, including numerous seedlings, many of which are already under trial at Ormskirk.

The inspectors were greatly impressed by the trials. The many varieties were planted early in April and others a month later. Those planted in May were infinitely better than those planted earlier.

Very interesting, too, were the new types of Broad Beans. These are the result of a cross between Sutton's Exhibition Longpod (white-seeded) and Beck's Green Gem (a rather dwarfed, small podded, green-seeded variety).

One of the new varieties is white-seeded, about 15 ins. high, of vigorous habit, and carries

a heavy crop of pods. It is dwarfed than either parent and much branched.

The other two are distinctly dwarf, reaching a height of 1 ft. only, very much branched and somewhat spreading. The crop produced is quite an extraordinary one, especially when the dwarf habit of the plants is taken into consideration. The individual pods contain four and five beans, green in the case of one selection and white in the other. The seeds are of the longpod character, intermediate in size between the two parents.

The two dwarf strains should prove of great value for early crops in frames or pits, but all the three types are also eminently suitable for culture in the open ground for the obvious reason that they can be grown closer together than is usual, while naturally they do not rob neighbouring crops of light and air to the same extent as ordinary tall kinds.

Messrs. Suttons hope that sufficient seed of the semi-dwarf and white seeded dwarf strains may be harvested this season to allow of their being offered in next year's catalogue.

Pretty Native Rock Plants.—One of the best of our native plants for the rock garden is the Horse-shoe Vetch (*Hippocrepis comosus*), a delightful trailer which will creep over the face of a rock or slope of arid, sun-beaten soil and cover either with a veil of olive green. In June the flower-stems rise an inch or so above this, each bearing a Coronilla-like head of little yellow flowers, which on passing over gives way to the seed vessel which is supposed to resemble a horse-shoe. *H. comosus* is found naturally on the limestone, but it will do in ordinary loam. It is in every respect a charming, orderly and easily satisfied plant, coming readily from seed, and the best place in any rock garden is not too good for it. There is an alpine form (*H. glauca*) with grey-green leaves which is also first-rate.

Diplacus glutinosus in the Open.—For many years this splendid plant with its aromatic foliage, elegant habit and long succession of golden buff or deep maroon flowers has been successfully grown in the open in a north-west country garden where 15° to 20° of frost is by no means uncommon in winter. The soil is light, stony and well drained, and in such a medium *D. glutinosus* will live for years without any attention beyond cutting back to the ground level (like a *Fuschia*) each spring. The shrub makes a wonderfully fast growth after this treatment and flowering commences about midsummer and continues to the first frost of autumn. Only in very severe weather is a little dry Bracken laid over the crowns. *D. glutinosus* seems to prefer a westerly aspect and, though a sun-lover, it will do very well in partial shade. Fresh plants are easily raised from cuttings struck in July, and if these are wintered in a cold frame and put out in May, many of them will flower in their first season.

Francoas as Border Plants.—Though usually seen indoors, *Francoa ramosa* and other species make first-rate border plants, the tall, branching stems (2 ft.) being rigid enough to hold erect the handsome head of white or pink Saxifrage-like flowers. Being Chilean plants, these are not necessarily as tender as many suppose. In fact, they may be grown in the open border and left without protection throughout the winter in all but our very bleakest counties. None of the *Francoas* appears to be particular as to soil or situation, but while they prefer a well drained root-run in full sun they have done successfully in quite heavy land in partial shade. The long-stemmed sprays are excellent for cutting, and the plants bloom from July on to autumn, when many flowers have gone over.

Wright Memorial Fund.—The Secretary of the R.H.S. asks us, as there is some doubt as to the purpose of the Wright Memorial Fund, to state that its object is to purchase an annuity for Mrs. Wright. It is hoped that a considerable sum will be raised in order that this may be possible.

Kew Gardens.—We understand that the five "foremen" at the Royal Botanic Gardens, Kew, Messrs. Coutts, Osborn, Irving, Raffill and Taylor, have been appointed assistant curators. The title "foreman" certainly was open to improvement, as, to the uninitiated, it conveyed a totally wrong impression of the responsibility of the position.

Classification and Synonymy of Crocuses.—The Royal Horticultural Society is desirous of planting all available species and varieties of Crocus for purposes of comparison, and the Director, R.H.S. Gardens, Wisley, Ripley, Surrey, will be glad to receive examples for the purpose so far as possible by July 31, 1922.

A Trial of Lettuces.—The Royal Horticultural Society will carry out a trial of autumn-sown Lettuces in their Gardens at Wisley this season. A packet of seed of each variety to be tried should be sent to reach The Director, R.H.S. Gardens, Wisley, Ripley, Surrey (from whom the necessary entry forms may be obtained) on or before July 31, 1922. Only varieties suited for autumn sowing should be sent.

An Excellent Spraying Syringe.—The Editor has recently had under trial one of the Abol Company's spraying syringes, special features of which are the anti-drip collar—a great boon to the amateur—and the fine, medium and coarse nozzles which enable the fineness of the spray to be regulated for various purposes. To clear the nozzle should dirt enter the syringe is the work of a moment, and the spray is very evenly distributed. For damping flowers to keep them fresh during transit or otherwise the fine jet is splendid. These syringes, which are recommended to members by the National Rose Society, are made in several sizes with or without the useful angle joint. Those in search of a first-rate syringe will find it in the Abol.

Netting Supports for Wall Fruit.—Many visitors to the Summer Rose Show were attracted to the new "Everyman's" netting supports exhibited for the first time by the House and Garden Sundries Company. These consist of a strong wire bracket to support canes in a manner similar to their well known netting supports for seed and Strawberry-beds, etc. The upper arm, which rests on the top of the wall, is provided with two loops through which any ordinary iron nail of sufficient length may be driven. A smaller loop at the lower arm gives the necessary support. These nails are driven into the mortar between the joints or suitable nails can be driven into the brick itself, the netting being fastened along the top of the wall by a series of hooks (the "Everyman" patent wall clips are admirable for the purpose), is brought forward over the canes and hangs down, thus projecting about a foot from the wall, so holding the netting clear of the fruit trees and giving space for foliage and fruit. The lower end of the netting can very quickly and conveniently be secured to the ground by means of the special netting pins also supplied by the firm. When not required for use netting and canes can be very easily and rapidly detached from the supports, and when stowed away occupy very little space. The brackets themselves are galvanised after manufacture, which protects them from rust. The netting pins referred to are also galvanised after manufacture, and are well adapted to their purpose. Made to the same pattern but a size smaller are excellent layering pins, equally useful for Carnations, Pinks or Strawberries. They are so shaped that the top

of the pin remains in sight when the layering is completed and so may easily be released at the proper season.

FORTHCOMING EVENTS.

July 18.—Durham, Northumberland and Newcastle-on-Tyne Horticultural Society's Annual Show (3 days).

July 20.—Walsall Horticultural Society's Show (3 days).

July 21.—Birmingham Horticultural Society's Show (2 days).

July 22.—Caterham Horticultural Society's Show.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

ANTIRRHINUMS DYING (K. L., Sussex).—The Antirrhinums are attacked by the fungus *Phyllosticta antirrhini*. They should be destroyed as they are not likely to outgrow the trouble and if left they may be a menace to the same type of plant next year. Antirrhinums do not require "stopping" if they are not allowed to become lanky in the seedling boxes.

IRISES ATTACKED (A. E. L., Taverley).—We expect that our correspondent's Irises are attacked by the Iris rhizome rot and recommend him to remove the diseased parts and give the soil a dressing of superphosphate of lime at the rate of 2ozs. to the square yard.

LUPINUS ("Mauve Poppy").—The little swellings on the roots of the Lupinus are not the sign of a disease, but of the presence of beneficial bacteria that take nitrogen from the air and pass it on for the use of the plant. They enrich the soil by this work for plants that follow after and are encouraged, therefore, by farmers and others by growing plants belonging to the family Leguminosae.

THE FLOWERING OF RANUNCULUS ALPESTRIS (D. C. M.).—This white flowered Buttercup prefers chalky soils, and grows on mountains between 3,600ft. and 5,400ft., occasionally going a little higher. It flourishes in fallen debris, in moist chinks of the rocks, and among the cool grass, and blooms from June to August in its native habitats. The difficulty in growing it in the more southern and warmer parts of this country is due to the warmth and dryness of the atmosphere during its period of flowering, as well as before and after that. To overcome this difficulty it should be planted in a cool situation, facing east or north, or simply shaded from the south by a tree, wall or other object. Water should be given to keep it regularly moist all through the growing season. The soil may be deficient in lime, and chalk or old mortar would meet this. It is possible to resuscitate old plants by giving them cool and moist treatment, with some lime in the soil.

IRIS QUESTION (Folsted).—There are no English Irises identical, as far as colouring goes, with the Spanish Irises *Cajanus* and *L'Unique*, nor are we acquainted with any Dutch varieties that would meet the case. Yellow colour (as in *Cajanus*) does not occur in English Irises, and the particular blue and white of *L'Unique* is very difficult to match exactly. The nearest English Iris, so far as we know, is either *Matador* or *Prince of Wales*, but the shade of colour rather lies between the two. The nearest to the rich golden colour of *Cajanus* in the Dutch Irises are probably *Golden Glory* or *Van der Heest*, though the precise shade is perhaps more nearly matched in *Iris Moonlight*, which, however, is not a bulbous Iris and, unless it can be given a very sunny position, does not always flower regularly, but it is a glorious species, and well worthy of additional trouble and care.

RABBITS AND IRISES (H. W., Wirksworth).—Rabbits destroy a great variety of plants and in warrens, where there is little grass, they will eat Gorse and Froom to the ground line. In one case where they got into a flower garden they gnawed and damaged the Zonal *Pelargonium* in the beds. Where grass is plentiful we have not observed much harm to things in general. They are fond of Carnations, Pinks and Laburnums, and will dig out these in preference to most other plants. We have seen about an acre of Irises near a large pond and at a considerable distance from houses, yet failed to see any damage by rabbits and heard no complaints. Judging by this the rabbits are not so fond of Irises as to single them out for special attention, and if grass is plentiful we think that damage to Irises would be negligible.

ROSE GARDEN.

ROSE COMPARISONS (Folsted).—The two Roses—W. C. Clark and *Château de Clos Vougeot*—although both dark crimson in colour, are quite distinct. W. C. Clark is much more shaded with maroon, is a better-shaped flower, is more fragrant, and is decidedly a stronger grower, so that, unless there is some special reason to the contrary, it is to be preferred to *Château de Clos Vougeot*. W. C. Clark also surpasses in all respects *Captaine Georges Dessirrier* which was considered by the raiser to be an improved *Château de Clos Vougeot*.

TREES AND SHRUBS.

AUCUBAS AND RHODODENDRONS UNSATISFACTORY (A. B., Woking).—The Aucubas and Rhododendrons are both suffering from the drought. Neither is

a plant for a very sunny position and Rhododendrons especially object to it. It is surprisingly difficult to wet soil when once it has become dry as we fear our correspondent's Rhododendron soil has.

FRUIT GARDEN.

RASPBERRIES NOT FRUITING ("Raspberry").—We can find no fungus or insect to account for the failure of the Raspberries. They may have been attacked by a little rusty brown beetle which often eats the stems and tends to prevent fruiting.

STRAWBERRY PLANTS UNSATISFACTORY (H. F. M.).—We have carefully examined the Strawberries sent for examination and find neither fungus nor insect present in them to account for the failure of the plants. The roots, however, are not healthy, and we wonder whether the soil is kept well hoed and free from stagnant moisture. Deep digging after the plants are in, of course, dangerous and so also is too hot an exposure of the soil. It would be worth while to attend carefully to such points as these and to make a bed on another spot.

CHERRY TREE UNSATISFACTORY (Hampton Court).—It is very likely that the blossoms were frozen. This does occur in some seasons and, curiously enough, portions of the trees are affected while others are not. Afford some protection to the blossoms another year. As the tree is very healthy, beyond the necessary pruning and a surface mulch of lime and loam—2 pecks of lime and 5 pecks of loam—next winter, there is nothing to improve the tree and its fruitfulness.

LIFTING AND PLANTING APPLE AND PLUM TREES (H. D. M. T.).—It would not answer at all to lift the trees in October and endeavour to keep them with their roots wrapped in straw sacking and earth. They would live, certainly, if lifted and well heeled-in, then replanted next April; but the check would be very severe. We advise our correspondent to do one of two things, namely: sell the trees to someone who would be able to re-plant them at once and permanently next October, and buy young trees to plant in November, 1923. Or arrange with someone to replant the trees, forthwith, in their garden in October and leave them there till the month of November, 1923, then planting in your own quarters.

HOW TO MAKE STRAWBERRY NETTING WATER-PROOF (A. B. P.).—The following process will make the string netting waterproof for at least two years. Five pints of linseed oil, 2ozs. of sugar of lead, 6ozs. of white resin. Simmer or boil gently the above ingredients in an iron pot over a slow fire for twenty minutes or half an hour. Apply in one of two ways, namely, by painter's brush while the liquid is hot, having first stretched the nets out fairly tightly to posts or outbuildings, or dip the nets in the hot liquid and then stretch them out to dry. Mix the ingredients thoroughly in the pot before placing the latter on the fire and stir slowly while the boiling is going on. Dip or paint the nets twice, but in the case of dipping be sure to lift out the net before the liquid cools too much.

PEAR TREE UNSATISFACTORY (P. B. H., Bourne-mouth).—The variety, Gansells Bergamotte, is a shy one in the matter of bearing and answers best when double-grafted. It is also assisted if very free-setting sorts are growing near: A cordon or two, of the variety *Durondeau*, planted conveniently near would help matters and the latter sort would rarely fail to bear some wood freely it would be beneficial if our correspondent root-pruned the tree next November or during December. Take out a trench 18ins. wide, 4ft. from the stem and about 2ft. deep. Cut off all fibrous roots crossing the trench, fill up with good loam and make it firm. Summer prune the tree now and winter prune in due course.

KITCHEN GARDEN.

ASPARAGUS BEDS (Bronley).—Do not use salt on the Asparagus beds till growth begins next spring, it would not benefit them. Keep the beds quite clean and water freely with such diluted liquid manure as that from a farmyard. Do not continue to cut Asparagus after the first week in July, at the latest.

CLUBROOT IN CABBAGES (A. B., Woking).—Cabbages become clubbed because of the attack upon them of a slime fungus (*Plasmiodiophora brassicae*). The only remedy is a dressing of quick lime, and this should be applied in autumn in a powdered state and dug in immediately, but not buried deeply. The presence of club root is a sign of soil sourness.

MISCELLANEOUS.

IMPROVING TENNIS LAWN (Bronley).—Undoubtedly our correspondent's lawn is poor and the grass needs stimulating. During the summer months get rid of the coarse weeds by dropping oil of vitriol in the centre of each weed such as the Plantains; use gloves and a pointed and slightly notched stick when applying the vitriol; dip the point in the vitriol then gently force it into the heart of the plant, which will soon die. Keep the oil of vitriol locked away in a safe place, also the implement with which it is applied. Early in September have ready some sifted rich soil, mix it with ground lime, one barrow-load to four of the soil; apply as a liberal surface dressing. A fortnight afterwards sow seeds of Hard Fescue Grass and roll the lawn. Next March repeat application and the sowing of the grass seeds.

NAMES OF PLANTS.—J. C., Shrewsbury.—1, *Brodiaea laxa*; 2, *Senecio Smithii*; 3, *Rhus Cotinus*, "Smoke Plant"; 4, *Abelia tricolora*.

CATALOGUE RECEIVED.

Elisha J. Hicks, Hurst, Berks.—Roses.

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DECORATIVE RAMBLING ROSES FOR HOUSE AND GARDEN

THERE are probably no Roses which make so brilliant a display in the garden as do the hybrid Wichuraianas and the climbing Multifloras. From the point of view of this article, namely, their decorative value, I need not rigorously discriminate between the two classes.

Turner's Crimson Rambler, introduced in 1893, was, so far as I know, the first of the Climbing Polyanthas grown in England. It quickly found its way into almost every garden. It is a Rose to which "distance lends enchantment." Seen near at hand the bunches of blossom are too heavy and crowded, and the colour is a little crude. In the distance, especially with the sun shining upon them, they make a fine splash of decided colour. As cut flower I cannot recommend them.

In 1897-98 Mr. N. J. Manda of New Jersey brought out the two fine hybrid Wichuraianas and called them Manda's Triumph and Pink Roamer. Though poor things in themselves, they were the pioneers of a great race, and were followed in 1899 by the beautiful yellow varieties Albéric Barbier and Gardenia, still two of the best yellows. In the same year Manda introduced the single creamy yellow Jersey Beauty with evergreen foliage.

In 1901 Messrs. Perkins and Jackson may be said to have revolutionised the appearance of our Rose gardens by bringing out the much loved, and of late much abused, Dorothy Perkins. No doubt her arrival, quickly followed, as it was, by other brilliantly coloured varieties, marks a distinct advance in the decorative value of the Rose as a garden plant.

For screens, tall hedges or pergolas the Wichuraianas are the most effective of all climbers, and they have what for these purposes is very desirable, an exceedingly rapid growth. They are also excellent for tall pillars. When grown as pillars all the old wood should be cut away as soon as they have finished flowering and the young growths should be carefully tied up to the pillar. This allows the sun free access to the plants and helps to ripen the new wood, from which very fine blossoms should be obtained the following year. If the plants are to cover large buildings or to make a big hedge or screen, some of the old wood with the best of the new growths or "continuing laterals" may be left in the autumn, only the dead and weak wood being taken right out. In the following spring these laterals may be cut back to a few buds or "eyes," when they also should produce quite fine clusters of bloom. There are now such a large number of varieties, all in their way decorative, that it is impossible

to make a complete list, but I will mention a few in their different colours which we have found the most effective.

WHITE.—Sander's White (late) and Grüss an Zabern (early). These have clusters of small flowers. The most beautiful of the white varieties with large fragrant flowers and very strong thorny growth is Purity. It is delightful cut in long sprays and loosely arranged in tall glass vases.

YELLOW.—Gardenia, Albéric Barbier, Shower of Gold and Emily Gray. Of these Albéric Barbier is one of the most delightful when cut, as the yellow buds open to rather large, creamy flowers which last a long time in water and are very fragrant. Emily Gray has flowers considerably larger than those of most of the "Wichs" and very handsome foliage, but it does not make big clusters. It is the deepest of the yellows. Jersey Beauty has single flowers and very large evergreen foliage.

PINK.—There are a large number of excellent pink varieties, some of which are sports of Dorothy Perkins. Chatillon Rambler, deep pink; Minnehaha, deep pink; Lady Gay, deep pink; Lady Godiva and Dorothy Dennison, pale creamy pink. The two last named are often considered identical, but in this garden we have found Dorothy Dennison the better of the two on account of its greater immunity from mildew. Cut in a young state the flowers last quite a week.

ROSE PINK.—American Pillar is one of the most effective of all the Ramblers, with huge clusters of single flowers. Ethel has erect trusses of pretty, almost single, flesh pink blossoms; while Christine Wright has large bright pink flowers.

SALMON ROSE AND COPPER.—Among these



ROSE ALBERIC BARBIER AND FOXGLOVES.



ROSE TEA RAMBLER.



ROSE GARDENIA AS A WILFING STANDARD.

shades of colour François Jurauxville (very sweetly scented), Léontine Gervais (with exquisite orange-tinted buds), Tea Rambler and René André are perhaps the best.

Evangeline, single flowered, pink, with a white centre not unlike our English Briar Rose, is worth growing for the sake of its delicious fragrance, which on a warm July evening fills the garden with its sweetness.

Joseph Lamy, white, edged with soft blush pink, is less well known than it deserves to be. It is not so rampant as most of the "Wichs." For some positions this may be an advantage, and its delicately tinted flowers have a refinement lacking in some of the more flaunting varieties.

CRIMSON.—Coronation is the brightest crimson we have with the exception of Paul's Scarlet Climber mentioned in my last article (July 8 issue). This is undoubtedly the finest crimson pillar Rose yet brought out, and the blossoms last in good condition longer than those of any other variety. They come on smooth almost thornless stems, therefore in many ways it is an ideal Rose for cutting. It is, however, quite scentless. Hiawatha (crimson with white eye, single flowered) and Excelsa (with huge bunches of crimson flowers) are two of the best in this colour. In driving about the country during July and August one cannot help noticing the popularity of these two varieties, almost equalling that of Dorothy Perkins. They seem to be taking the place of the older Crimson Rambler. They are brighter in colour and are less given to mildew. Diabolo is a nearly single "Wich." of a very rich crimson shade with bright golden anthers.

A Wichuraiana of a different character from most of the above is Gerbe Rose. It is not specially rampant, but it has beautiful light green foliage and smooth stems. The pale pink, very fragrant blossoms are arranged along the stems in the fashion of a wreath, hence the name. The flowers are produced in the autumn as well as the summer.

From the point of view of the decoration of the house many of the climbing Roses are exceedingly useful, although to me they have not quite the charm for this purpose that the more beautifully formed Teas and Hybrid Teas possess. They are, nevertheless, extremely effective when they are arranged in tall vases, and even the tender-hearted can cut them with long sprays without compunction. Many of them as we have seen are fragrant, and nearly all have the great advantage of lasting well when cut. Léontine Gervais with its pretty orange buds and bright shining foliage makes a delightful table decoration, and for this purpose the single Jersey Beauty and the creamy pink Dorothy Dennison are also very well suited; in fact, in skilful hands and used with moderation these Rambling Roses may add much to the attraction of our houses, as they undoubtedly do to our gardens.

WHITE LADY.

POSITIONS FOR WICHURAIANA ROSES

The hybrid Wichuraianas are probably the easiest to grow of all hybrid garden Roses. They flourish on light, not over-rich soil, which, without considerable alteration and improvement, would be quite unsuitable for the beautiful Hybrid Teas and even more impossible for the Hybrid Perpetuals. Easily increased from cuttings and for the most part vigorous in growth, whether on their own roots or budded on the Briar, their ease of culture often leads to their being planted in quite unsuitable situations.

It borders on the banal to point out that some varieties shew more of Wichuraiana blood than others, but it is this fact, obvious though it be, which leads to mistakes at planting time. Rosa Wichuraiana itself has exceedingly glossy foliage. It is followed in this respect by most of its descendants with yellow or creamy flowers, such as Albéric Barbier, Klondyke, Jersey Beauty or Gardenia. On the other hand, varieties with pink or crimson blossoms in clusters, such as the Dorothy Perkins group, Troubadour, Hiawatha, etc., have foliage noticeably less glossy and, incidentally, less beautiful.

It is quite safe to use Roses belonging to the former class to drape a hot bank with a southern exposure. They may either be planted at the top and allowed to trail down or planted at the bottom and trained up. In either case they are unlikely to be troubled with red spider or badly attacked by aphids. Dorothy Perkins, however, despite its robust constitution, will not flourish under such conditions. It may grow, for it has immense vitality, but it will almost certainly become infested with red spider. If a pink Rose is wanted for such a position, it will be wise to fall back upon the more truly beautiful but less spectacular René André, which has a dark glossy foliage so characteristic as to identify the variety even when out of flower.

It must always be remembered that Rosa Wichuraiana is a trailing species and that most of the hybrids are happiest when allowed to trail.

BORDER CARNATIONS AND THEIR PROPAGATION

Their merits and increasing popularity, with some recommendable varieties.

SMALL wonder, when we consider their many charms, that Carnations, "the fairest flowers o' the season," as Perdita so rightly described them, have long had a warm place in the hearts of the English people. Not only have they been beloved alike by peer and peasant, but kings have paid homage to their beauty and delicious fragrance. A portrait of King Edward IV, painted in 1467, shews him holding a red Carnation, and this royal predilection is shared by our own King George, who at the Chelsea Show of 1921, when he saw Mr. Douglas's collection of most magnificent flowers, remarked, with great enthusiasm, to Her Majesty and to Lord Lambourne, on his great love of Carnations.

Such perfect blooms as those shown by Mr. Douglas are not possible with all of us, and the blooms in question must have been pot grown, but in the generality of gardens it is not at all difficult to grow Carnations really well. They also have the merit of being good town plants. But, as with so many other plants, success is only attained by care and timely attention to cultural details. Now, while the plants are in full bloom, it should be decided what sorts are to be perpetuated and what new varieties purchased in order to keep the collection as up-to-date as possible. In the matter of propagation the old-time florist mostly pinned his faith to pipings, which, they said, produced sounder plants that "will encounter the rigours of a sharp winter better." But most of these fanciers grew their plants in pots, so it is not likely that they possessed such sound constitutions as have our present-day Carnations, which may well be propagated by the easier method of layering.

The layering should be done as soon as the "grass," as the basal shoots are termed, has grown long enough to be treated, and it will generally be found that this happens towards the latter part of July. The work can well be done throughout a month from that time. The earlier the shoots are layered, however, the better will the next season's flowers be. As it will be a considerable time before the plants can be copiously watered, once layering has been commenced, it is well to make sure that the soil is thoroughly moist before commencing the work. Layering is quite a simple operation; the "points to be observed" are: select a good healthy growth, cleared of its lower leaves and cut well along the

centre with a sharp knife, the layer to be well pegged down in sufficient sifted, leafy soil; the soil surrounding the layered shoots to be left uniformly moist. When removing the basal leaves, care must be taken not to strip the skin from the shoot; if the leaves do not pull away cleanly, a pair of scissors should be used. It will be found that a worn-out birch broom will furnish a number of suitable pegs for the layering, while



BORDER CARNATION, CRYSTAL CLOVE, HAS THE TRUE OLD CLOVE SCENT.

in country districts many use pegs cut from bracken fronds.

During the long period that the Carnation was grown as a florists' flower, form and ground colour were much more esteemed than fragrance, but now, while a well formed flower is still rightly admired, it is held in greater esteem when it possesses that precious gift of fragrance. The most fragrant of all Carnations—the old Clove Carnation which formerly was in nearly all gardens—seems now to have totally disappeared, but that beautiful variety Bookham Clove more nearly approaches it in perfume than any other sort and is quite the best of all the crimson Carnations. It has long been known that the crimsons and scarlets are distinctly more fragrant than those of any other colour, so those who prize fragrance above all will also grow such as John Knox (a deep velvety crimson flower), Mrs. A. Brotherston (white ground,

heavily marked with crimson-purple), Jean Douglas (vivid scarlet), with Cardinal (light scarlet), Golden Douglas (the best bright crimson), and Lullaby (the best of the bright scarlets). Or the pinks—Rosy Morn, Mrs. Robert Gordon, Miss Willmore and Hilda Blick are all beautiful and reliable, and of the blush pinks Innocence, Annie Laurie and Lady Roscoe are as good as any. From the apricot-shaded sorts one would select Elizabeth Shiffner, Salmonca, Mrs. G. A. Reynolds and Dora Blick. Bookham White is the best of all whites, though Mrs. Henwood and Trojan have also great merits. Daffodil and Border Yellow, with the ruby-coloured Lord Nelson, and Grey Douglas and Duchess of Wellington, from those of heliotrope shades, with the above, would make a good selection of self-coloured varieties. There is now quite a strain of Clove-scented sorts, including the pure white Crystal Clove and the beautiful Salmon Clove.

The Fancy Carnations are increasing in favour now that it is realised how very beautiful many of them are and what wide ranges of colouring they possess. A good selection would include The Bride (rosy red on white ground), Delicia (pink and crimson on white ground), John Ridd (yellow suffused with rosy red), Mona (buff, suffused with pink), Mrs. H. L. Hunt (lavender on white ground), Liberté (maroon and crimson on rich yellow), Mellon Prior (glowing scarlet on rich yellow), Harlequin (rose and crimson on canary yellow), Daisy Walker (rose pink on white ground), Lord Kitchener (bright red on glistening white), Pasquin (yellow ground edged and flushed with rosy-lavender).

Picotees have a distant charm and while it is rather difficult to grow the ideal, perfect flower, they are exceedingly graceful and decorative. They are divided into yellow ground and white ground sections. Each section has varieties with a broad, medium or light edge. In all varieties the ground should be clear and unspotted. The following is a good selection of yellow ground Picotees: Agnes, Exquisite, Togo, Constance, Santa Claus, Margaret Leinox, Onward and Ophir; while Gannymede, John Smith, Radiant, Polly, Brunette and Mrs. Sharp are good white ground sorts.

The new Perpetual Border Carnations, which have been shown so consistently by Messrs. Allwood Brothers, have great possibilities. The raisers claim that they will surpass the true Border varieties, as they flower perpetually from late spring to late autumn. In growth and habit they are much like the Border varieties and to this charm of foliage they add the long period of flowering derived from the Perpetuals. The best of these sorts are Avondale (rich salmon pink), Brilliant (white ground, heavily edged and flaked with chocolate), Highland Lassie (white ground, edged with red), Rosalind (heavily pencilled with red on white ground), Sussex Pink (delicate peach, deepening in the centre), and Sussex Maid (flaked with rose pink on white ground).

A. CECIL BARTLETT.

FORTHCOMING EVENTS

July 25.—Royal Horticultural Society's Fortnightly Meeting. Lecture at 5 p.m. by Dr. A. B. Rendle on "Plants of Interest Exhibited."

July 26.—Cardiff County Flower Show (two days).

July 27.—Royal Botanic Society's Meeting, Bristol and District Gardeners' Association's Meeting.

July 28.—Midland Carnation and Picotee Society's Exhibition (two days).

July 29.—National Viola and Pansy Society's Show, to be held at the Botanic Gardens, Birmingham.

ESSENTIALS OF GARDEN DESIGN

II.—Unity and Gradation

OUR first article was devoted to the importance of Simplicity. Of two ways choose the simpler. Let us this week consider the closely related principle—Unity. How often after visiting a garden does one speak or think of the component parts or some of them rather than of the whole. "Mr. So-and-so has a charming rose garden" or "lovely water garden," as the case may be. Such gardens, most of us think, just miss greatness through a lack of homogeneity—for want of a settled plan or, it may be, for lack of a competent planner!

It may disarm criticism to say at once that not everyone likes a planned or ordered garden, or planned or ordered house for that matter. Lovers of the heterogenous in architecture will like the scattered and haphazard in garden construction. Their gardens, like Topsy, will have "grown"—grown awkwardly at that, an outgrowth here and an extension there, the whole reminding one of a supertuberculated Potato. These notes are not for such, so they had better turn the page.

Unity is chiefly manifested in the connexion of the various features. Obviously it is easier

the straightness in the formal garden. On the other hand, a severely formal garden is more difficult to connect to purely informal planting because the two have no feature in common.

It would, in fact, be true to say that some feature in common must be provided if a satisfactory junction is to be effected. Such feature may be nothing more than an unbroken stretch of greensward, the common groundwork of formal and informal alike, or, if paving be employed in the formal garden, a line of paving leading onward into the informal garden will often establish a unity that was previously entirely lacking.

We all know the more or less "picturesque" type of building either designed by some architect of the last generation or, occasionally, formed by the addition, at odd periods, of wings, single rooms, porches and what not. To-day such buildings are not greatly favoured. Not only does their architecture lack distinction, but they are, as a rule, singularly inconvenient within—often, indeed, lacking some of the more elementary conveniences one is entitled to expect.

While the "picturesque" and higgledy-piggledy in architecture has gone into disfavour, the higgledy-

and, as a rule, makes no attempt to visualise the completed scheme. He may possibly enlist the services of his house architect to design a surround. The result, in this case, is but too likely to be the same. A house architect usually considers garden-design as a very subsidiary portion of his duties, and, at any rate, he lays out the surround only from the point of view of shewing to best advantage the house architecture. The immediate surround of the house, however, forms the connexion between house and garden and needs thus to be thought of from two aspects.

How often does one see what should be a straight herbaceous walk, leading on, perhaps, to further gardens or it may be terminating in some architectural feature, swerve like a shying horse towards the end because, probably, lack of foresight has made the proper connexion impossible. It is not always, of course, that such ineffective paths and strange, inconsequent awkward joinings are caused by the impossibility of getting better effects. Sometimes it is merely that, through slight acquaintance with the subject, the right solution is passed over.

There can be little sense of unity in a garden where the connexions between various features are "hole and corner." On the other hand, let no one confuse unity and monotony. A garden springs to mind—a garden of some extent—largely consisting of winding walks planted on either hand with flowering trees and shrubs and hardy plants. Similar trees, shrubs and plants were to be found in each section, and the owner and his head-gardener were pleased to speak of the "essential unity" of the design; "deadly monotony" would have been the writer's description.

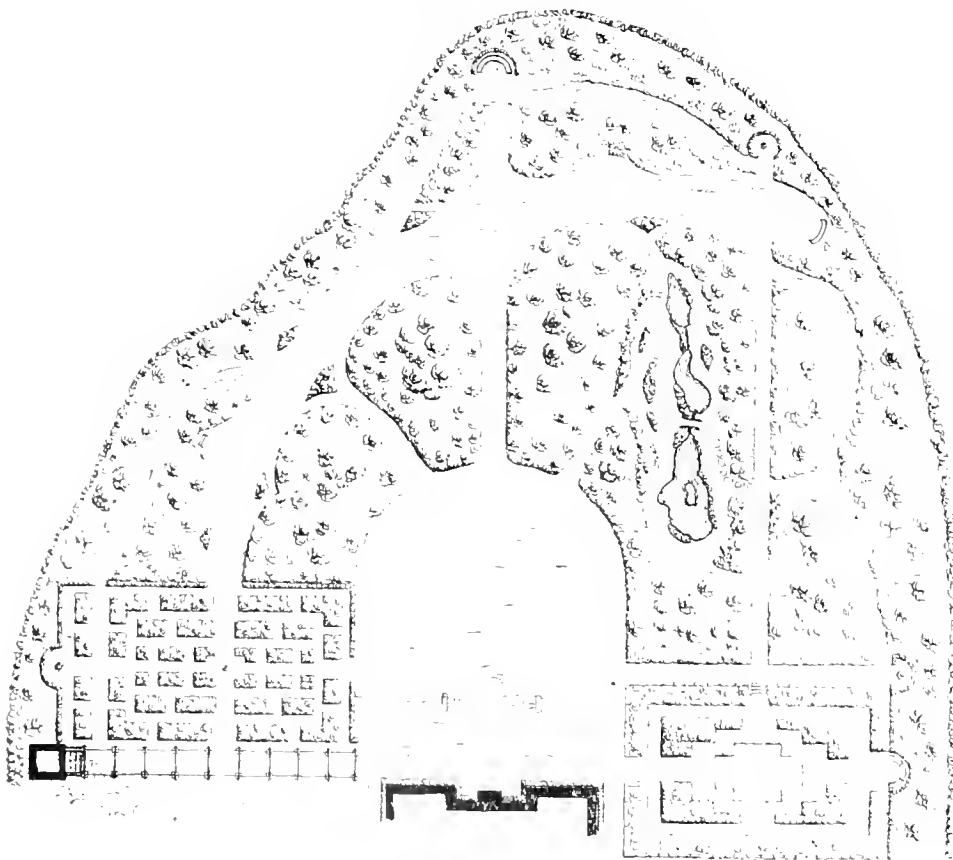
Unity and simplicity in a garden are so closely intertwined that it is difficult at times to differentiate; the same may truly be said of unity and gradation. The unity and completeness of a garden largely depends upon proper gradation. It must always be right to have the most formal treatment nearest to the house and the most informal at a distance from it. To obtain a satisfactory and pleasing effect the gradual merging of the formal into the informal must be managed, and this is admittedly most difficult when the house calls for very formal surroundings and the space at disposal is limited. In such case it is often better to eschew informal effects altogether.

There are, throughout the country, many gardens which it is a real pleasure to view, where excellent plants are grown, where the arrangement and proportioning are in every way satisfactory, but which from the owner's standpoint are, nevertheless, open to grave objection because the view of the gardens from the house is unsatisfactory or, in some cases, there is practically no garden view from the house at all. The garden is, after all, merely the setting for the house, and it is, assuredly, a very grave drawback if it fails to provide a series of beautiful views from the principal points of vantage in and around the house itself. There are, of course, houses where, owing to various extraordinary conditions, such views may not be, but they represent but a very small proportion, and the appearance of the garden from various windows and entrances should certainly be the would-be designer's first care.

The normal sequence of gradation between formal and informal may be expressed as follows, commencing with the house-surround:

(1) Entirely formal—rectangular paving, formal beds, mown level lawns, dressed stone walls, moulded copings, carved pillars, caps, urns or stone vases.

(2) Rectangular paving, either "coursed-random" or "rectangular-random"; probably



A GARDEN WITH MANY AND VARIED FEATURES.

From formal pergola and rose garden, one traverses a bold curving vista which might in itself incorporate a great number of features such as wild rose, rhododendron, azalea, heath and shrub gardens. Suitable plantings elsewhere will readily suggest themselves.

satisfactorily to connect features presenting points of similarity than those entirely dissimilar. Formal rose garden and pergola are readily linked, because both are formal and both make Roses a main feature; pergola and summer-house or pavilion, because both are architectural; a straight herbaceous walk and any sort of formal garden, because the straightness of walk and borders conforms to

piggledy and assuredly unpicturesque in garden lay-out still lingers. The reason for this is sufficiently obvious. The owner of a new house usually, in the first instance, lays out only the ground immediately around it. He is absorbed in the details of the house itself. Consequently when he turns to the question of the house surround he gives it more or less perfunctory attention

THE CARE OF HERBACEOUS BORDERS AT THIS SEASON

self-faced and possibly with Thymes and other low-growing plants between the joints; walls of undressed stone, either coursed or rectangular-random; simple un moulded copings, mown level lawns and terrace banks; formal beds with informal plantings, probably mounding on or trailing over the pathway stones.

(3) Formal hedges, formal beds, stone seats, etc. If carried out in the grand manner may be as formal as or more formal than (2).

(4) Formal hedges, regularly arranged curvilinear beds, possibly on sloping ground.

(5) Straight herbaceous walks and straight-edged shrubberies.

(6) Beds of curvilinear outline, the curves free and dissimilar, but all defining a straight or easily curving vista.

(7) Similar work, but contoured, with the probable introduction of rockery stone.

(8) The entirely informal wild garden.

This does not precisely describe, of course, every desirable style of garden, but it will not be difficult to place any such as about equal in formality to one or other of the above. Between (6) and (7) some would place gardens with beds bounded with free and dissimilar curves, but giving no vistas. These are omitted as unworthy. Such gardens must lack essential combination.

It is hardly necessary to point out that all the above gradations need not be present in the same garden to shew satisfactory design. Only with Classical or Renaissance architecture of some pretensions is the purely formal style (No. 1) necessary, while in grounds of limited extent there is no scope for wild gardening and, maybe, no place even for the balanced, informal masses described in Nos. 6 and 7.

Speaking generally, it is undoubtedly a mistake especially in the gardens of limited area which are being formed to-day, to pass, as one leaves the house behind, from formal planting to informal and then revert to the formal once more. It is, however, allowable, even necessary in many cases, to reintroduce a degree of formality around a pavilion, summer-house or other architectural feature closing a vista. For this reason, if for no other, the architecture of such garden building should be as simple and unaffected as possible. An austere Georgian house—and some Georgian houses may accurately be so described—with modern garden architecture, including elaborate pillars in one or other of the recognised orders and ornate cornices and other mouldings is a truly pitiable combination.

Gradation is, of course, important as applied to the actual planting. There must be gradation of mass and gradation of colour if the result is to be satisfactory. Gradation in planting is, however, a subject of great importance and some complexity and may more fittingly be dealt with when we come to discuss "Balance," which it is hoped to do in a subsequent article. Gradation in colour planting is also altogether too big a subject to include in the present article.

The plan on page 354 shews a method of treatment not feasible in every garden. It could, obviously, not be carried out on a site greatly longer than wide, for instance. It serves, however, to suggest how unity may be maintained in a garden displaying a wide variety of plants and treatments and also how a pleasing gradation may be managed. The association of pergola and rose garden will be noted, also that the pergola is definitely supported by architectural features—the house at one end and a summer-house at the other. There are few commoner mistakes in the garden lay-out than the wrong use of the pergola. A pergola which seems to have no definite objective always looks out of place.

UNLESS care be taken, herbaceous borders are but too apt to become untidy and unsatisfactory as soon as the Delphinium blossom is over, if not before. The copious rains which have supplied sadly needed moisture have also in many cases laid low the occupants of the border, even

the clumps. Plants from seed have usually sufficient vigour, given good soil and cultivation, to make the double effort without loss of stamina and this is undoubtedly the reason why in many gardens in which only the best is good enough, seedling Delphiniums are chiefly to be met with in the herbaceous border.



EFFECTIVE HERBACEOUS BORDERS.

where staking and tying had been thoroughly and intelligently carried out.

The havoc having been, as far as practicable, repaired, remains to hoe or otherwise break up the surface of the border and apply a mulch of rotted manure or even lawn chippings so that the moisture may be conserved in the very possible spell of hot weather. If the border has been planted to advantage, most of the gaps caused by the passing of early-flowering plants may be largely concealed by judicious "tying out." There will, however, always remain some gaps which may not satisfactorily be filled by this method.

This is where the value of plants grown on in the reserve garden becomes apparent. Many Michaelmas Daisies and a number of sorts of border Chrysanthemum will lift quite well, if thoroughly soaked two or three days previously. If Michaelmas Daisies belonging to the *Novae-Angliæ* class are wanted, however, they must be grown plunged in large pots as they do not transplant satisfactorily from the open ground. The same remark applies to the more tap-rooted Chrysanthemums. There is an enormous difference between varieties in this respect.

It is becoming increasingly the custom to plant out Dahlias of all the decorative classes to "carry on" after Lupins, Dornicums, Anchusas and such like have finished. It is quite possible to use them after Delphiniums and other flowers of full summer. They, too, must of course be grown in pots.

Delphinium plants, if cut back immediately after flowering, will produce a second and very welcome crop of bloom in autumn. Many amateurs have cut them back, however, who have subsequently regretted doing so, for, especially in the case of named varieties, it has a very weakening effect upon

Undoubtedly the average man when forming his herbaceous border uses too large a proportion of plants of short duration. Some of the grandest flowers, unfortunately, produce the shortest display; think of Lilies or Gladioli, for example. The following plants have a long flowering season and should be used for some of the largest groupings. Unfortunately, they are all comparatively low-growing. *Geum coccineum*, all forms, including the Winchmore Hill variety, now called Mrs. Bradshaw, must first be mentioned, then Gaillardias—the soft yellows, such as Lady Rolleston or E. F. Anderton are invaluable—*Nepeta Mussini*, *Anthemis Cupaniana*, *Cercopsis grandiflora*, Iceland Poppies (if the seed pods are removed) and *Violas*, many bedding varieties.

Quite a number of plants, of which the flowering season is short, are decorative when out of flower and so merit special attention. These include the herbaceous *Paeonies*, the Bearded Irises, many French Lilies (*Kniphofia*), the Day Lilies (*Hemerocallis*), the Globe Thistle (*Echinops Ritro*), and some of the *Thalictrums*, as well as such generally used shrubs as Lavender (tall and dwarf), Rosemary and the Southernwood family, *Artemisia*. The same remark applies, of course, to the smaller-growing *Yuccas*—*filamentosa*, *flaccida* and *angustifolia*—now often, and very effectively used in herbaceous borders.

Flowering plants with especially pleasing but low-growing foliage include *Heuchera*, *Rudbeckia maxima*, *Paradisca*, *Potentilla*, *Campanula persicifolia*, and *Pinks* and *Carnations*. All these, irrespective of the height of their flower stems, should be kept towards the front, when in some cases their upspringing blossom will serve to break the otherwise too even slope of vegetation.

SUMMER FLOWERS AT VINCENT SQUARE

ALTHOUGH the Show at Vincent Square on July 11 was not quite equal to those of late, there was a pleasant variety and the hall was fairly well filled. The few vacant spaces were apparently allotted to the National Carnation and Plectee Society, which held its Southern Section Show in conjunction with the R.H.S. meeting. Their

and to supply fuller particulars in view of a probable award. It has solid flesh and a small stone, and is of good flavour. Mr. G. P. Berry of the Ministry of Agriculture, who has a good opinion of its merits, says it is a prolific variety which promises to be profitable for market purposes.

The principal floral exhibits included very handsome stove and greenhouse plants, many

Roses were staged by Messrs. Paul, Frank Cant and Co., D. Prior and Son and the Rev. J. H. Pemberton, who all had excellent collections. The most popular Rose seemed to be the deliciously fragrant crimson Red Star, though the dusky maroon Dinah fascinated many visitors. Such golden and orange yellow sorts as Golden Emblem, Independence Day, Margaret Dickson Hamill and Rayon d'Or were also well shown.

NEW AND RARE PLANTS.

Begonia Sir J. Reid.—An exceedingly handsome double-flowered tuberous-rooted variety. The Camellia-like flowers are of perfect shape and bright orange colour, while the foliage is prettily marked, making it a most desirable variety. Award of merit to Messrs. Blackmore and Langdon.

Carnation Mary Murray.—Quite the best of the canary yellow Border Carnations. It is exceedingly vigorous, free-flowering, and the flower-stems are so stout and erect that supports are unnecessary. The flowers are large and slightly perfumed. First-class certificate of the National Carnation Society to Messrs. Lowe and Gibson.

Carnation Snowflake.—That this was the premier white self at the Carnation Show is an indication of its great excellence. The flowers are of medium size, well formed, and the habit and tohage are ideal. First-class certificate of the National Carnation Society to Mr. J. Douglas.

Clematis sp.—A very graceful free-growing species which bears long racemes of four-petalled star-like white flowers. The pea green glaucous foliage is reminiscent of *C. Armandi*, and it appears to be a very desirable species where a climber of free habit is needed. The award is subject to naming. Award of merit to the Rev. W. Wilks.

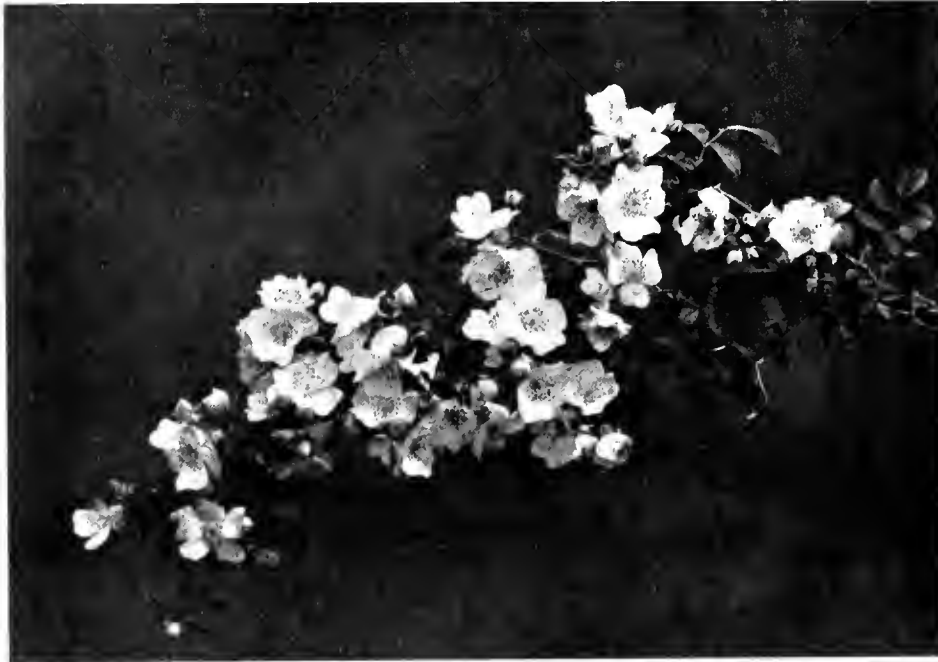
Eschscholtzia Crimson Carmine.—A welcome addition to the Californian Poppies. The varietal name aptly describes the colour of this exceedingly showy annual. The flower is made more conspicuous by having a white centre. *Eschscholtzias* are not generally known to be excellent for cutting. Award of merit to Mr. W. H. Gardiner.

Helenium Crimson Beauty.—This is a rather brighter *H. cupreum*, and should be a valued addition to the genus. Its height will make it useful for the middle and back portions of the flower border, and it should also be valuable for cut-flower purposes. Shewn by Messrs. G. Jackman and Son.

Hypericum sp.—The award to this valuable hardy shrub was subject to its being named. It may well be termed a buttercup yellow form of *H. patulum Henryi* and, like that variety, should be very useful for the front parts of the shrubbery. It is of good habit and very free flowering. Award of merit to Mr. Lionel de Rothschild.

Lilium gloriosum.—This is one of the many *Lilium pardalinum* hybrids raised by Mr. Amos Perry, and was the most robust of the many he had on view. Judging from the cut spike, we should expect the growing plant to become about 3ft. high, so it is of quite useful size. It bears plenty of blooms of pale orange colour, freely spotted with crimson. The floral segments are relatively long and pointed, so that it is a very graceful flower. Award of merit to Mr. Amos Perry.

Magnolia macrophylla.—This South-Eastern United States species bears the largest leaves of all the Magnolias. Under really suitable conditions they are said to become 3ft. in length, while those at the hall were about 2ft. long. They had rather a delicate appearance and were of thin



THE GRACEFUL NEW ROSE, KEW RAMBLER.

display was not so extensive as its promoters anticipated.

It was interesting to see, in only a few, some exhibits of fruits and vegetables in addition to the flowers. Messrs. Carter and Co. had some really good Peas and Broad Beans, both as whole plants to illustrate their bearing capabilities and as dishes of gathered pods. The Peas were two new dwarf sorts. Superb crossed with Quite Content gave Raynes Park No. 1 and Raynes Park No. 2. The former is said to be the earliest and to grow 1½ ft. in height, while No. 2 is a second-early and 2ft. in height. Both have pods as large as Carter's Quite Content. These very promising sorts are to be tried at Wisley, and we await the result with great interest. The Broad Beans were all of fine appearance, and included such sorts as Green Leviathan, Green Loupod, Mammoth Loupod and Mammoth Windsor, and all seemed equally valuable.

The fruits on show were a collection of Tasmanian-grown Apples of excellent appearance by Mr. Frank Walker and two varieties of Red Currant by Messrs. G. G. Whitelegg and Co. The Apples included Jonathan, Croton, Esma and Hoover of brilliant crimson colour and the delicate Dunn's Seedling. Messrs. Whitelegg's Currants were Orpington Prolific and Littlecott Beauty. Fruiting branches and gathered fruits of each were staged, and they illustrated exceedingly fruitful habits and large clusters. Like the Peas and Beans, these are to be tried at Wisley, after which, no doubt, they will receive awards.

A seedling black Cherry was submitted to the Fruit and Vegetable Committee, and Mr. Yates, the exhibitor, was asked to name the variety

Roses, Carnations, Lilliums, Delphiniums, garden Pinks and other border flowers. A very large exhibit of the old favourite Madonna Lily (*Lilium candidum*) was shewn by Messrs. Barr and Sons, pleasantly scenting the hall to a considerable distance, and many garden lovers who experience some difficulty in establishing this beautiful Lily were amazed at the quantity of handsome spikes. Besides that which received an award, Mr. Amos Perry shewed a number of his interesting hybrids of *Lilium pardalinum* and *L. regale*, which should prove valuable garden plants.

Some beautiful herbaceous Phloxes were shown by Mr. H. J. Jones. Messrs. Blackmore and Langdon had some stately Delphiniums and double Begonias of great merit. Lady Rhonda is a very handsome orange-coloured variety bearing intense nicely waved flowers.

Japanese Irises of great excellence were staged by Messrs. Whitelegg and Co., and Messrs. W. H. Rogers and Son. Messrs. Lidhams, Limited, had a long stretch of *Lavatera Olbia rosea*, which was particularly effective. Messrs. John Forbes, Limited, brought from Hawick in Scotland, Phloxes, Delphiniums and other border flowers. The alpines were not so numerous as of late, but these included the fascinating silvery lavender batch of *Campanula Bellardii* Miranda in a collection by Messrs. R. Tucker and Son. Mr. M. Pritchard had an interesting collection of good garden Pinks.

The Carnations were all excellent. Messrs. Allwood Brothers had many good sorts and also an abundance of their Allwoodii. Mr. C. Engelmann also had a fine display.

texture. They are oblong-ovate, pale green above and silvery grey beneath. The bloom was of correspondingly noble appearance, being quite 4ins. across and of globular shape. The dull creamy white petals are stout and fleshy, and there is a slight fragrance. It is a handsome tree for a sheltered spot, though, while hardy, is liable to injury from spring frosts when young. Cultural commendation to Mr. Lionel de Rothschild.

Phlox suffruticosa Snowdon.—This is quite the best white-flowered herbaceous Phlox we have seen. It is of sturdy habit and bears very large, compact trusses of pure white flowers, which are relieved from insipidity by the closely set cluster of deep primrose-coloured stamens. The flowers are pleasantly fragrant. Shewn by Mr. H. J. Jones.

Rhododendron auriculatum variety.—This appears to be an interesting white variety of the Chinese species which was introduced by Wilson in 1900 though it was discovered by Henry in W. Hupeh. The whiteness is in the flower-stalks as well as the blooms, and there are soft hairs on the stalks and towards the base of the exteriors of the flowers. Award of merit to the Hon. H. McLaren.

Rhododendron discolor, pink variety.—A pleasant soft pink variety of the beautiful fragrant, hardy Rhododendron which received a first-class certificate on June 27 last. Award of merit to the Hon. H. McLaren.

Rose Kew Rambler.—In general appearance this graceful, free-flowering Rose is a slightly smaller rose pink American Pillar, though the foliage is slightly glaucous. It was raised at

Kew by crossing the Chinese *R. Soulieana* with the popular *Hawatha*. It is of robust habit, the outer parts of the petals are of wild rose colour, and it is eminently adapted for planting on pergolas, archways and for similar purposes. Award of merit to the Director, Royal Gardens, Kew.

BORDER CARNATION CLASSES.

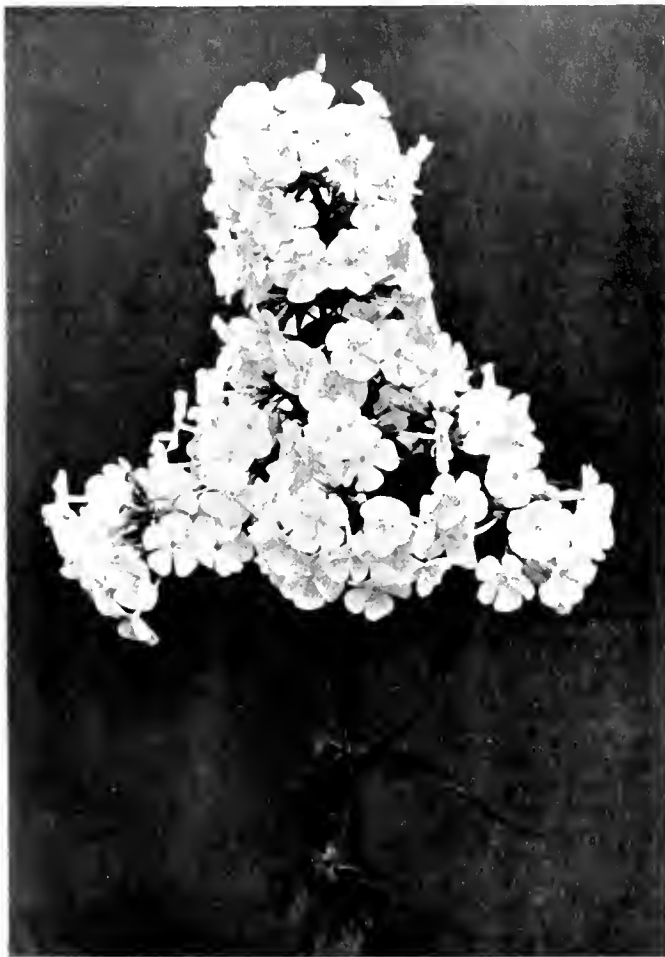
ALTHOUGH there were not many exhibitors at the annual show of the National Carnation and Picotee Society (Southern Section) on July 11 last, there were quite sufficient high-class blooms to enable visitors to see how beautiful and decorative the Border Carnations really are. The bizarres and flakes which in years gone by were the Alpha and Omega of the Carnation fancier, have almost entirely fallen from favour. It is a matter of congratulation to the Society that these formal yet attractive varieties were no longer shown on boards with a stiff paper collar around their necks. The present day method of exhibiting the varieties in vases permits them to be set up in a natural and graceful manner so that quite a number of visitors admired the six varieties which Mr. R. Morton, Woodside Park, shewed so well. His collection included an almost perfect bloom of Master Fred, which proved to be the premier bizarre bloom in the Show. He also had excellent blooms of Meteor and George Morland.

There were no white ground Picotees in the open classes, but Mr. James Douglas shewed such splendid blooms that he was awarded the remaining five first prizes. His very best blooms included the new Snowflake; Salmon Clove, a most

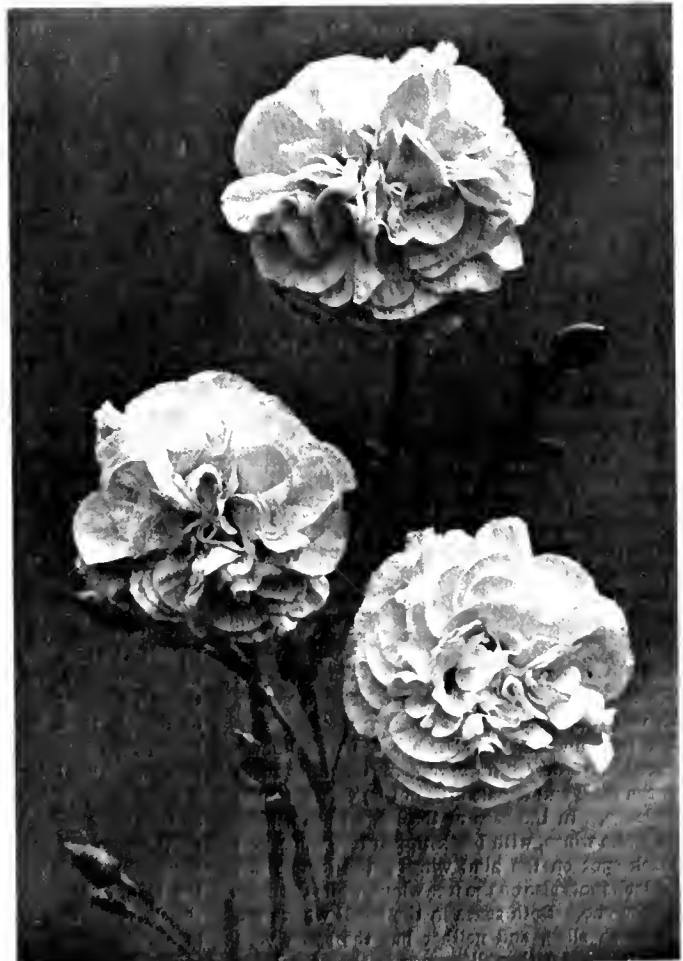
deliciously fragrant variety which was judged as the best clove-scented in the show; Marechal Niel, a self almost of the colour of the well known Rose that bears the same name; Viceroy, the best of the yellow ground Fancy Carnations; and Stereota, the premier white ground Fancy, while in the special class for clove-scented varieties his best was Scarlet Clove, a variety of vivid colour, almost as strongly scented as Salmon Clove, and King of Cloves, which in intense dark crimson colour and in fragrance approaches the old Clove Carnation.

There were ten or eleven classes of a rather more decorative character, inasmuch as buds were used in addition to the blooms and these, we imagine, were colour classes, but there was no indication on the exhibitors' cards or in the schedule as to their object or nature. None of the cards bore any other than the class number, so the general visitor received no assistance from them. Still, we suppose "the flowers are the thing" (to paraphrase), and in these classes they were all charming. Mr. Douglas earned out most of the first prizes and incidentally he again won the Cartwright Challenge Cup. Here his outstanding varieties were superb blooms of Cherry Blossom, Albion, King of Cloves, Scarlet Clove, Kelson, Eclipse, Prospero and Margaret Keep. Miss Elizabeth Shiffner, Lewes, won first prizes with very fine vases of Gray Douglas, Border Yellow and Effie Deans.

In the principal amateurs' classes Miss Shiffner was the most successful exhibitor, and she again won the Martin Smith Challenge Cup. Her splendid vases of blooms included Lieutenant Shackleton, Salmon Clove, White Fox, Border Yellow, Elizabeth Shiffner, Fujiyama, Gordon



PERHAPS THE BEST WHITE PHLOX, *P. SUFFRUTICOSA* SNOWDON.



THE MAGNIFICENT SOFT-YELLOW BORDER CARNATION MARECHAL NIEL.

Douglas, Mrs. R. P. Smith and Grey Douglas. Mr. J. J. Keen, Southampton, won first prize with Huntsman, which was also the premier scarlet flake; Gannymede, premier heavy-edged Picotee; and Eclipse, premier light-edged Picotee. Mr. Keen's were all splendid blooms.

In the amateurs' division for growers of fewer plants, Mr. E. W. Painter, Brentford, was particularly successful, and he won the Charrington Cup with very meritorious exhibits. The two classes for Carnations grown unprotected in the open border did not induce great competition, but the best three vases shown by Miss J. B. Wells, Clapham, were of high quality, as also

was the one vase shown by Mr. E. J. Lowe, Cricklewood.

Large non-competitive collections were arranged by Mr. James Douglas and Messrs. Lowe and Gibson, and these were so good as to receive medal awards from both societies. Mr. Douglas had excellent vases of Maroon Clove, Bookham Rose, Gordon Douglas, Fair Ellen and Lieutenant Shackleton. Messrs. Lowe and Gibson gave special prominence to their new Mary Murray, which received a deal of admiration. Among their collection were also the sweetly scented Surrey Clove, Kathie Moore, Skirmisher, Border Yellow and J. Saville.

THE WHITE BUTTERFLY PEST

The life-history of the offending species as it bears upon methods of control

OF course one finds White butterflies elsewhere as well, especially in the Cabbage fields, but they are essentially garden pests. The reason for this is not far to seek. When the caterpillars are full-fed they at once begin to seek out some dry, sheltered spot where they can pupate in safety and comfort; the spot must be dry and it must be sheltered. A garden, with its fences and wooden sheds, provides many more suitable places than an open field. Still, on the face of it, this hardly seems a sufficient reason, because the butterfly, though she takes care to lay her eggs on the food plant, certainly does not look so far ahead as to choose a place suitable for pupation. It is, however, a fact that both butterflies and moths have a tendency to hover and linger over the place where they emerged from the pupa case, and butterflies born in a vegetable garden will probably stay there. This is, naturally, particularly the case with the female insects.

This characteristic of the white butterfly suggests a remedy, and that is, the thorough sweeping out of all sheds and outhouses, where there will most surely be pupae. The pupae will be found at the end of July and all through August, and also during the winter. It is the July and August brood that is the more important of the two yearly broods; it is these insects that produce the great swarm of butterflies in May. Also, at this time we are not helped very greatly by the insect-eating birds; they have no young ones to feed, and there is plenty of food for themselves.

Among all the butterflies that come to our gardens there are only the large and the small whites that have injurious larvae. There is a little doubt about the caterpillars of the green-veined whites; it is possible they do some harm to the leaves of Turnips and Cabbages, but their natural food is Hedge garlic, Winter Cress and Watercress, and whatever harm they do is infinitesimal compared with that done by the other whites. Their larvae are very like those of the small whites, but the insects themselves are easily recognised, for their hind wings are yellow with very dark venings.

The large and small whites are too well known to need any description, though the differences between male and female may not be very common knowledge. In the case of the large whites, both have white wings, with black-tipped fore wings and a black spot on the hind wings; the female has two black spots also on the fore wings, while the male has only one. Both sexes in the small whites are very much alike, and neither has the spots very much black. Another difference is that the large whites generally lay their eggs on the underside of the leaves, while the small whites as often choose the upper.

The large whites are seen on the wing from May to August, but the small whites appear as early as April and are sometimes seen in November. In the appearance of their caterpillars they differ too. Those of the large whites are the most generally known, because they are much more evident than the others. The small, green larvae of the small whites are often hardly distinguishable from the leaves they feed on, but the blue-green bodies, the black tubercles, the three yellow lines running from head to tail, these make the larvae of the large whites very prominent creatures.

Both species feed for about a month before pupating, and both take about a week to hatch from the eggs, but the weather has a great deal to do with prolonging or lessening these periods. The eggs are very easily seen, almost as easily as the caterpillars, and hand picking of both eggs and caterpillars is the best remedy. There are others, but they injure the plant as well as the larvae. One of the least damaging is the scattering of lime and soot over the plants, but if this is done when the larvae are resting on the under surface of the leaves they will escape. On dull, dark days they will be found resting, and also at dusk; though it is quite possible that they may go on eating through the night. A sharp shower of rain often washes them off the leaves; therefore, a sharp spray of water from the hose pipe will do the same thing. The larvae of the large whites, especially, have a habit of rolling off the leaves when disturbed, but you have to be quick to collect them or they will find their way back to the plants.

When you see a white butterfly in the kitchen garden, follow it. Most probably it is a female, intent on egg-laying; the males prefer the flower garden. Anyway, a glance will tell you the sex, for the markings on the wings are very apparent as the insect flies. If you approach too closely, it will lay its eggs in ones and twos, but if you take care not to disturb it, the whole batch of from six to sixty will be laid in one place, and it is then a simple matter to destroy them. Incidentally, there is nothing more exquisite in the whole world of nature than these golden eggs of the white butterfly, with their twenty longitudinal ribs and finely chiselled transverse lines. They each have a little base, and, when the tiny larvae hatch out and eat their shells, these little white bases remain to show where the batch of eggs was laid. After the shells are eaten the larvae turn their attention to the leaf, but, until the second moult, they keep closely together; after that, they gradually scatter in all directions.

The caterpillars of the large whites have one single weapon of defence, a very curious one. They are able sometimes to eject from their mouths a drop of green, disagreeable smelling liquid. This

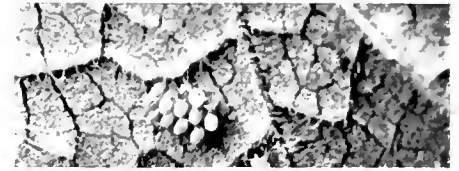


Fig. 1.—Eggs of the Large White butterfly (*Pieris brassicae*), greatly enlarged



Fig. 2.—The very young larvae of *P. brassicae* work in companies and are relatively easy to collect and to destroy.



Fig. 3.—Six caterpillars of the Large White species have reached maturity. One has already pupated, four have been attacked by *Ichneumon*s, and one, though not pupated, appears to have escaped attack. The grubs of the parasite are spinning cocoons beside the dead larvae. Such cocoons should on no account be damaged or destroyed.

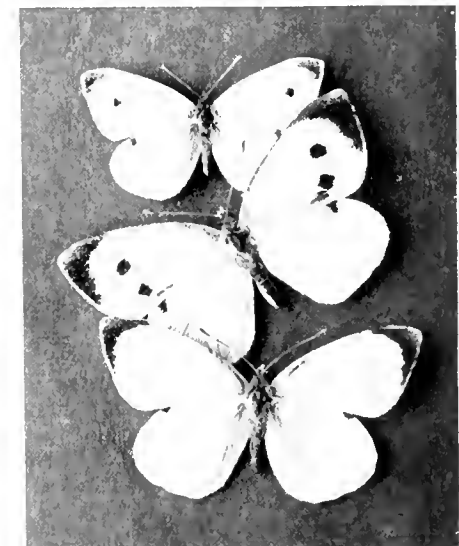


Fig. 4.—Garden White butterflies: The Small White (*Pieris rapae*), the Large White (*P. brassicae*), female and male.

is, however, all that they can do; it may perhaps protect them from the attacks of birds. Sparrows eat them in spite of it, but most other birds will not touch them, except when they are very small and then probably they are collected for the nestlings.

It is a depressing but interesting reflection that for an immense number of years—ever since man first started the cultivation of the wild sea Cabbage—agriculturists all over Europe, in Northern Africa and in some parts of Japan, have been trying to exterminate the white butterfly, and have never really had the least permanent success. Perhaps if the balance of nature had not been so recklessly interfered with the butterflies might not have increased so disastrously, in spite of our having supplied them with unlimited quantities of the food they prefer; sparrows, if they had been allowed to do so, would certainly have accounted for a very great number, and the little black ichneumon fly, *Apanteles glomeratus*, that is such an inveterate parasite of the larvæ, would have done more good still if its cocoons had not been systematically destroyed and the fly itself killed by the sprays that were meant to kill the caterpillars.

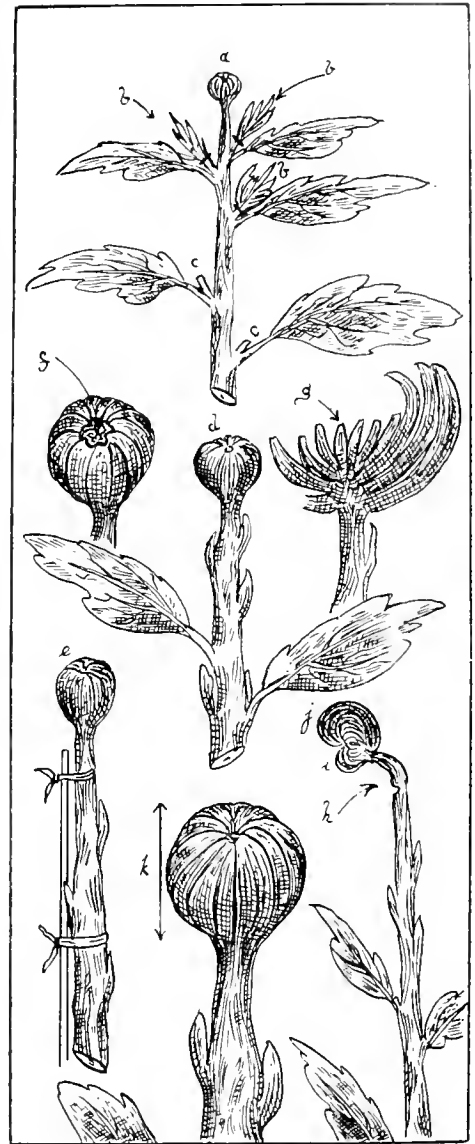
There are country folk still who call the cocoons of these ichneumon flies "caterpillars' eggs" and crush them as soon as found! It is impossible to say what might have been the position to-day if the sparrows and the ichneumons had had a free hand; but ignorance and stupidity have fatally checked them. The extent of the small parasite's operations among the cabbage caterpillars may be estimated by the fact that, out of a hundred larvæ collected, more than half will

generally be found to have been "stung" by the ichneumon. They are, of course, not really stung at all; the fly has laid her eggs in the butterfly's eggs or in the larvæ—probably in the eggs, in spite of reiterated assertions to the contrary—and the grubs, hatching out, have fed on the larval juices and eventually killed the larvæ. The grubs, at this stage of their existence, when they have destroyed their host, are ready to pupate. Each step in their career, from the laying of the eggs to the death of the caterpillar, has been for their benefit and for their host's destruction. All the scenes in the really dreadful little drama are played out with unerring precision. When the grubs are ready to pupate, so is the caterpillar—if it could. All it can manage to do, however, is to spin its little pad of white silk on which, as a normal chrysalis, it ought eventually to have been suspended, but which the grubs immediately annex. While the silken pad is being spun they have sucked a little opening in the skin of the caterpillar and now come tumbling out, each in a tremendous hurry to get safely inside its cocoon. These cocoons are piled up anyhow on the silken pad, close to the empty and used-up caterpillar, and owing to their size and golden yellow colour they are very conspicuous little objects.

Nothing that we can do, no remedy that we can possibly devise, will destroy the cabbage caterpillars so effectually as the "sting" of this ichneumon fly, and the greatest care should be taken that neither the fly nor its cocoons are injured by insecticides and sprays, and especially that the cocoons are not destroyed through ignorance.

M. H. CRAWFORD.

possibly causing the loss of the bloom through damping as the flower nears full development. Three days after the buds have been "taken"



"TAKING" THE BUDS.

DISBUDDING LARGE-FLOWERED CHRYSANTHEMUMS

TO cultivators it will not seem to be a long time since the cuttings were inserted, as the days go by quickly to those deeply interested in their work. That interest will now be still deeper, as the very interesting phase of cultivation has come, namely, the "taking" of the flower-buds. Of course I am referring to the selection of buds on plants grown to bear large blooms of those of the Japanese section and blooms refined and of high-class quality of the incurved and single-flowered sections respectively.

Beginners and those of limited experience are generally somewhat puzzled as to how they should treat their plants at that stage when the flower-buds form, as they will do from the middle of July till late in September, according to the variety and season.

Varieties which naturally flower late, if propagated late in winter-time, will not, if grown naturally, show buds till late in August or early September. Such buds would be too late to develop into large blooms. We will, however, suppose that all propagation and "stopping" of shoots has been done in due time and everything is quite in order; the flower-buds will then appear on, or near to, the right date. The massive blooms of the newer varieties require a long time in which to develop from the bud stage. It may be—as was the case last year—that some buds will be shewing by the date these words are in print. All such of late sorts must be gradually "taken," as to remove such buds and then depend upon later ones would spell disappointment in the shape of thin blooms shewing an eye.

Some of the largest blooms grown in this country last year were the result of "taking" buds on

July 15; they were late-flowering sorts. The blooms are larger from crown buds than from terminal; the latter, it is true, produce flowers richer and deeper in colour, but usually lacking in depth.

HOW TO "TAKE" THE BUDS.

In the accompanying sketches the crown bud is shewn at *a*, the side shoots *b*, *b*, and *c*, *c* must be gradually removed when they are less than 1 in. long; not all in one day, but one or two each day till only the bud and the main leaves are left. The letter *d* shews the bud growing freely, and *e* shews how buds with weak stems may be supported and kept in an upright position. Watch the buds day by day, and go round the plants at night and inspect them by lantern light. Earwigs are fond of the buds, and will soon do a lot of harm if not checked. They eat out the centres as shown at *f*. While the flowers are in the bud stage it seems a trifling matter enough, but see, at *g*, what the result is as the bud develops; the flower petals are packed very closely together in the bud, and in one night the earwig will spoil the bloom as shown at *g*. There are, besides the earwigs, small grubs that gnaw the tender stems just below the buds as shewn at *h*. Result: half the bud fails to develop, as shewn at *i*, the other half, *j*, being affected too, in sympathy it would seem to be. To prevent damage to the tender stems the cultivator should dip fingers and thumb in soot and gently smear a small quantity on the stems.

Aphides, of course, must be kept off the plants. Should they infest the buds, syringe them off with clear water early in the day. Do not use tobacco powder on the buds, as some will remain and eventually work down among the petals,

recommence the judicious feeding of the plants as before.

The main requirement of the *Chrysanthemum* cultivator, indeed of gardeners in general, is a capacity for taking pains. GEORGE GARNER.

THE SOUTH SEA MYRTLES

THE *Leptospermum*s are much hardier than is generally supposed. Though they attain their greatest perfection on the South Coast, they can be grown satisfactorily and without the shelter of a wall in all but our bleakest counties. They appear, however, to need a well drained loam, and if there is any doubt as to their being able to stand the winter, a mound of ashes at the base will generally save the plant should the upper parts get cut back by frost. One of the most beautiful is *L. Nicolli*, with velvety crimson flowers, and it is doubtless as easily managed as the commoner *L. bullatum* (*scoparium*). *L. Boscaweni*, the white flowers of which are suffused and centred with crimson, is a very lovely form, coming near to *L. Chapmanii* in appearance, and *L. stellatum* is a good creamy white. They are evergreens of an erect, slender habit with tiny, rather bronzed leaves.

CORRESPONDENCE

IRIS NOMENCLATURE.

OUR attention has been drawn to a letter appearing in your issue of July 8 over the signature "Geo. Dillistone," criticising our action in giving the supplementary name "Sunset" to M. Denis' beautiful Iris *Ochracea cœrulea*.

We think it is desirable to state that Mr. George Dillistone is a member—we believe a director—of the firm of R. Wallace and Co., Limited, of Tunbridge Wells. A few of your readers may be aware of this, but the majority probably are not, and we draw attention to the fact because we will not be drawn into a controversy with a trade competitor in the columns of the amateur gardening press; it would be neither interesting nor edifying to your readers.

We wish to say that those of your readers who are interested in this matter will, we think, be quite satisfied with the manner in which we have dealt with Iris *Ochracea cœrulea* in our Iris catalogue if they will be good enough to refer to this publication.

We must also add that, so far as we are aware, this Iris has never been offered to the public in any Iris catalogue hitherto published in this country, on the Continent, or in America, and that if we should have stated at any time that we are distributing it this season, we should have been perfectly justified in doing so. Further, the name "Sunset" has not previously been appropriated for any other variety in any Iris catalogue with which we are familiar, nor does it appear in the American Iris Society's List of Irises (at any rate, not in our copy), as stated by Mr. Dillistone, and we have every right to use it as a supplementary name. Our reasons for doing so are sufficiently obvious and well founded.

We have never willingly misled our customers with regard to any matter in connection with the plants we sell, and we are not doing so in this case.—G. G. WHITELEGG & Co.

THE SYRINGA.

I WAS under the impression that the word *Syringa* applied to the Lilac only. In Bentham's *Flora* there is a reference to "*Philadelphus* (*Syringas*)" under the family of Saxifrage, and to Lilac (*Syringa*) under the Olive family. Again in *THE GARDEN* of July 1, "Pruning and Thinning Flowering Trees," page 313, mention is made of "*Syringa* (*Philadelphus*)," and *Syringas* and Lilacs are separately named. Would it not be correct to classify *Syringa*=Lilac, *Philadelphus*=Mock Orange?—W. T. D.

[The botanic name of the Lilac is *Syringa*, and the common name of the *Philadelphus* is Mock Orange or *Syringa*, though the latter is unquestionably more generally used, which is unfortunate. It certainly is wiser always to refer to the *Philadelphus* as Mock Orange.—ED.]

ROSE "GERBE ROSE."

THE different futures of the two women in the Gospel narrative who were grinding corn is but one instance out of an immense number where it is inexplicable why one should be taken and the other left. What has Gerbe Rose done that it is not more frequently seen clothing pillars or rambling over arches in our kitchen gardens when others of no greater decorative merit are here, there and everywhere? Is it that it cannot be labelled with that delightful Irishism, invariably associated in my own mind with a great raiser who is a very St. Chrysostom in his descriptions of new Roses? If it falls short of being "very perpetual" it is *proxime accessit*. It has splendid vigour. It is a cut-and-come-again in the multitude of its blooms. I do not know whose nose

a Rose has to satisfy before it is admitted into the select circle of Selection 12 in the 1921 Rose book of the National Society; but again it must be *proxime accessit*. It is described in that invaluable little publication as "deep pink." That is just what it is. I want to pass on something of the enthusiasm of a rose-lover who has lately made it known to me. She even coupled it with *Zéphirine Drouhin*. One hopes that history will repeat itself in the case of Gerbe Rose and that, like *Zéphirine*, it will in the end come into its own.—MAELOR.

THE SPIRIT OF THE GARDEN.

A summer's day was sinking to its close.
Hushed was the busy hum of Nature's life
With all its myriad voices and around
The well known daylight colours of the flowers
Changed all their values in the mellow light.
Peace reigned. On every hand the garden lay
In that sweet state, half sleeping, half awake
Where the soul's ocean breaks on conscious shores
Waking those utterances which men call dreams.
This mood the poet knew and well perceived
The Spirit of the Garden brooding near;
Yet, as he mused, the question crossed his mind:
"Where are thy haunts and when may'st thou be found?"

Unspoken was the thought, unspoken too
The answer, borne upon the evening air.

"When in Spring life wakens slowly
Making earth rejoice
In the soft air blowing lowly
Breathes my voice.

"Where the moonbeams bright are falling
On the dew-starred grass
And the nightingales are calling
Do I pass.

"Summer's sun which bids the flowers
Glow with fragrant light
Traces on the dial the hours
Of my delight.

"When life fades, the funeral pyres
Flame from shrub and tree
With the antman-coloured fires
Lit by me.

"Where the hoar-frost glistens brightly
O'er the frozen land,
He who loves a garden rightly,
Sees my hand.

"Noble park or plot most humble
Both are haunts of mine
For alike I fill a temple
Or a shrine.

"Gardens all, whatever their measure,
Filled with loving care
Hold the source of highest pleasure,
I am there."

A. E. SIMS.

THE SUMMER ROSE SHOW.

THE Show is getting back to its pre-war size, but all those wonderful groups, wholly or in part made up of plants in pots, were still conspicuous by their absence. Have they, I wonder, gone for ever?

The groups had gone, but Miss Willmott told me that she thought it was the finest Show the Society had ever had. Now, of all people Miss Willmott knows what's what in Roses. Another

testimony to its excellence was that of Mr. E. H. Woodall. He, too, is no mean authority. What struck me more than anything was the almost universal break away from the ancient jammed-all-together arrangement of the flowers in the groups. I am sure the poor Roses appreciated being given breathing room; and I am still more sure that all who came to see them thought the change beneficial.

The weakness of the Show appeared to me to be the slovenly way in which many of the round baskets were finished off. There has to be a behind-the-scenes, one knows, but one does not want to see it. Probably moss, like early sown vegetables, has not grown over well this dry spring, but surely enough could have been found to hide the wire and tubes necessary to hold the flowers in their places.

Managers of larger shows than the Rose Show would do well to take notice of the spacious gangways. It makes the whole difference to the enjoyment and comfort of the visitors; and, what is of equal importance, it helps trade. Now trade at a show is like charity in daily life, it blesses the visitor no less than the exhibitor.

No one who has ever been to a National Rose Show if asked to name its most distinctive feature could make any other reply than "The new Roses tent." The long thick line of patient waiters outside the entrance would not have disgraced the outside of a theatre when a popular play is running. Then once inside all was order. It was refreshing after the higgledy-piggledy, shoved-in-anyhow flower salad behind the iron bars at Chelsea!

The popularity of the Decorated Table section is as great as ever. There were in all no fewer than thirty-four tables competing in one class or another. Unfortunately the beauty of the arrangement of the whole is not the one and only thing to be thought of—probably because of this I profoundly disagreed with most of the awards of the judges. If the arrangers of the flowers had to grow their own, there might possibly be something to be said for show standards being necessary in the individual blooms, but when all the flowers and all the foliage may be acquired by purchase or by presentation it is rough on the exhibitor who has no friend at court or who has not a very deep purse; and yet can arrange simply and tastefully. The table that was, to me, miles ahead of all in the tent only got a "third" in its class. Is it easier to make a silk purse out of a sow's ear or out of a silken skein?

Lastly no one could fail to notice a general improvement in the look of the Botanic Gardens themselves. Now, more than ever, they make an ideal home for a show. The Rose Show is a very wise creature.—JOSEPH JACOB.

BORDER CARNATIONS.

I NOTICED a letter from my friend Allwood in a recent copy of your paper, and although the copy is lying on my desk at Edenside half a mile away, perhaps you will allow me to reply to the only important point I noticed that, to my mind, needed elucidating. The whole sense of Mr. Allwood's letter seemed to point to some potent gift of perpetuity possessed by hybrid Carnations as opposed to the flowering period of the genuine Border strain. Nothing could be more illusory nor calculated to puff one section against another (quite innocently, I admit, for we all acquit Mr. Allwood of any such unfair intention). I suppose the full flowering period of a Carnation in the garden is from June to September, inclusive. The gardener who cannot produce Border Carnation bloom over that period has something to learn. Almost every variety of our new Clove-scented Borders, if grown the second and third year in the same place without disturbance, will produce bloom from May until September, and even October if the weather is dry.

I seem to have heard that "a shoemaker's wife is usually badly served for shoes." Surely in the same sense the wife of a Carnation specialist is usually badly off for Carnations. At any rate, I am about to confess that in my garden there is only one Carnation plant. (I must have Lavender, Sweet Williams, Pansies, Stocks and Roses—but Carnations, No, sir!) This plant of the new Bookham-White Clove, planted October, 1920, has been in bloom (rarely having less than three blooms on at the time) since May 21 last, and I herewith give you an account of its present development as I stand before it: 128 layers, or growths, for 1923 flowers; fifteen visible flower spikes that will bloom between end of July and end of September; ninety shoots bearing buds that will flower within the present month; sixteen shoots bearing full blooms and buds shewing colour, some of them 4ins. across, the calyx of every one perfect, and the scent of the flowers perfuming the evening air with the glorious aromatic Clove odour.

In spite of the heavy winds of the last week all spikes are standing erect without staking,

the appointment, should go thoroughly into the objects the Wisley Gardens are intended to serve. Perhaps to some extent this has been done since I see in *THE GARDEN* that the genus *Crocus* is to be grown and compared, a very welcome change, in my opinion, from the eternal trials of vegetables and flowers. I consider the value of these trials to be immensely over-rated since they determine only the best varieties for a light sandy soil and climatic conditions similar to those obtaining at Wisley.—SUSSEX.

THE MOCK ORANGE.

YOUR beautiful picture of *Philadelphus Coupe d'Argent* in the issue of July 8, page 332, has moved me to write on behalf of that now unfashionable shrub *P. grandiflorus*, which, flowering later than most of the Mock Oranges, is large flowered, pure white and noteworthy for its graceful habit and vigour. It attains a height of 15ft. to 20ft., which adds greatly to its value in many situations. It is, of course, scentless, but not everyone will consider this a drawback. For cut flower purposes it is certainly a great advantage

SWEET PEAS AT EASTBOURNE

SELDOME, if ever, have such fine Sweet Peas been seen as at Devonshire Park on July 12 and 13, when the National Society held its annual show there on the invitation of the Eastbourne Horticultural Society. The great Winter Garden was filled with glorious, fragrant spikes of large blooms, and there was an enormous attendance.

The principal interest was centred in the trade competition for the Eastbourne Challenge Cup, presented by the county borough and valued at 60 guineas. Each of the many competitors was allowed a space 15ft. by 4ft. 6ins., and there were no restrictions as to varieties or style of arrangement. The judges experienced considerable difficulty in awarding the first prize, as the magnificent exhibits by Messrs. Andrew Ireland and Hitchcock and Messrs. Dobbie and Co. were of such even merit that only a half point separated them. However, the greatly desired trophy was finally awarded to Messrs. Dobbie and Co., who had a magnificent lot of Sweet Peas, all of high quality, but lacking the bright colours of their closest competitors. Among the many sorts shown by Messrs. Dobbie and Co. were Dignity, Royal Scot, Melba, Renown, Constance Hinton, Pink Pearl, Tangerine Improved and Jean Ireland.

In the superb effort by Messrs. Ireland and Hitchcock vivid colour was displayed by the generous vases of such as Hawmark Pink and Tangerine Improved, while Daisybud, Jean Ireland and Elegance were also exceedingly charming. The gold medal awarded for this collection was richly deserved.

Messrs. Sutton and Sons had perhaps the most attractive style of arrangement in all these gigantic displays, but, though of first-class quality, their blooms were not quite equal to the super-excellence of the two former exhibits.

Messrs. Sutton's gold medal exhibit included Picture, Tangerine Improved, May Unwin and Hawmark Pink.

Silver-gilt medals were awarded to Mr. J. Stevenson, Messrs. S. Bide and Sons, Mr. W. J. Unwin and the Preston Hall Nurseries, while Messrs. Carter and Co., A. Jewell and P. W. Abbott received silver medals for collections which on ordinary occasions would have been considered of great excellence, but this was no ordinary occasion.

The Monro Challenge Cup was for competition among the trade growers, and it required twelve vases of varieties raised or introduced by the exhibitor. With the trophy goes the Society's gold medal, and this valuable first prize was decisively won by Messrs. Ireland and Hitchcock, who had exceptionally meritorious vases of such as Mrs. A. Hitchcock, Olive, New White and glowing blooms of Tangerine Improved. Messrs. E. W. King and Co., who were second, had superb spikes of Giant Attraction, Anglian Orange and Mrs. A. Hitchcock.

Messrs. King and Co. won the Burpee Challenge Cup with a charming arrangement of excellent blooms of waved varieties, and they also had, in Rosemary (shades of pink), the best vase of seedling Sweet Pea.

The raser's class was won by Mr. J. Stevenson, and his very best varieties were Fair Lady (deep blush pink), Crimson Glow and Wild Rose; the colours of the two last are well described in their names.

With superb spikes of Mascott's Helio, Picture, Mrs. A. Hitchcock and other sorts Mr. L. Horton won the E. W. King Cup, offered for the best twelve varieties on sale during the present season.



PHILADELPHUS GRANDIFLORUS. PROOF OF OUR CORRESPONDENT'S CONTENTION.

and these characteristics we claim for thirty-five out of our forty new Cloves and for 80 per cent. of our listed Border Carnations if the plants are grown the second and third year without disturbance. For many years we have carefully selected for hybridisation varieties that have shown a tendency to "Perpetual" habit, until now we claim that our strain, if treated as already mentioned, will flower over the whole of the period permitted by our changeable climate.

I do not desire to animadvert on the rest of my friend's letter, but only to sympathise with him on the lack of taste shown by the important societies he mentions in not fathering his bantlings. That is strange also, for I never knew the Royal Horticultural Society backward in acknowledging merit, or the National Carnation Society for that matter.—JAMES DOUGLAS, *Great Bookham*.

WISLEY GARDENS.

I HAVE not heard of any successor being appointed to the late Mr. S. T. Wright, Superintendent of Wisley Gardens, so imagine that the Council are taking their time in the hope of finding the man best suited for the post. I would respectfully suggest that the Council, when considering

as the scent of the otherwise valuable *P. coronarius* is quite overpowering indoors.

Philadelphus Lemoinei and its derivatives are admittedly very useful for the front of the shrubbery, but there has been of late years a tendency to plant them, even in large gardens, to the exclusion of the plant of which I enclose a picture. This should not be.—H. H.

PRUNING CLEMATISES.

IN your issue of December 31 last you publish a letter from Mr. Owen Thomas in which he tells us how to train and prune the Clematis *Nellie Moser* so as to get 1,500 fully expanded flowers out at once. I think he is mistaken in ascribing *Nellie Moser* to the Jackmanni section instead of the Lamignose section, an inaccuracy that is misleading, as the two sections require very different treatment. He says that in January, 1920, he had all the shoots cut back to within 9ins. of the ground. I imagine the result would be that in that year he got no blossom, or very little, as *Nellie Moser* blossoms on the old wood.—E. L. W.

[Mr. A. G. Jackson, a recognised authority, advocates precisely the same pruning for the Lamignose and Jackmanni sections.—ED.]

PLANTS FOR A SMALL MORAINÉ GARDEN

(Continued from page 322.)

The President's Prize is in open competition, and Mr. A. H. Parsons, Lewes, won the cup, medal and money prize with a really great exhibit. His spikes of Renown, Mrs. A. Hitchcock and Matchless were the very best. The best varieties not yet in commerce were shown by Messrs. S. Bide and Son, who included Almas Beauty and, in Nancy and Unique, two uncommon bicolors.

The Sutton Cup, open to competition among amateurs only, evoked extensive competition, and was won by Sir Randolph Baker, whose best sorts were Picture, Felton's Cream, Jean Ireland and Mrs. A. Hitchcock. The same competitor had the best amateur display of Sweet Peas, and this was highly decorative. The highest quality amateur blooms were in the *Daily Mail* Cup class, which was won by Mr. F. W. Franks, Loampits, Tunbridge, with a superb collection, including, in the vase of Picture, the best vase in the competitive classes. The best vase of a novelty Sweet Pea was that of Mascotte's lugman, a rich rosy cerise, in the second prize set of Mr. H. Walker, Lewes, which was of such excellence that the judges must have experienced great difficulty in awarding the prizes. Chief among the other sorts in these superb collections were Jean Ireland, Valentine, Matchless, Elegance, Royal Purple, Royal Scot and Mrs. George Shawyer, though all really deserved mention. Mr. Franks also won the Edward Webb and Son's Cup and a number of first prizes in the colour classes.

At the Show the best varieties of the different colours were Constance Hinton (white), Hawlmark Pink, Orchid (lavender), Dobbie's Cream, Fiery Cross (orange scarlet), Royal Scot (cerise), Field Marshal (crimson), Warrior (maroon), Jean Ireland (picotee-edged) and Mrs. Tom Jones (blue). The blooms in the smaller amateurs' and local classes were also of very gratifying quality and were greatly admired.

Large space had to be devoted to the decorative classes, and most of the exhibits were very artistic. Mrs. A. D. Ruff, Shornbrook, had the best dinner-table decorations and won both first prizes. Her association of orange and pale blush shades and mauve and blush with elegant foliage was particularly successful, as also was Mrs. A. R. Bide's basket of Sweet Peas. A large table of beautiful stands of Sweet Peas and splendid dishes of fruit in great variety arranged by Mr. C. R. Aust of Eastbourne was one of the features of the show.

In tents on the lawn there were many delightful miscellaneous exhibits by the trade. Messrs. Allwood Brothers won the Silver Challenge Cup and piece of plate with one of their superb collections of Carnations and Allwood's Pinks. Mr. C. Scaplehorn almost filled a smaller marquee with a wide range of excellent border flowers, a Lily pool and bank of Ferns. Messrs. J. Cheal and Sons had a good collection of many types of Dahlias, Roses and border flowers.

Many fine spikes of Eremuri of such as E. Bungei and E. Shelfordi were associated with various hardy border flowers by Messrs. G. Bunyard and Co. A beautiful miscellaneous exhibit was made by Mr. G. I. Scott, who seems to be able to grow *Gilia coronopifolia* very easily, as he had many excellent plants. Hardy flowers were also shown by Messrs. Maxwell and Beale and Messrs. G. and A. Clark; while Messrs. Carter and Co. had splendid Begonias, Gloxinias and Eschscholtzias arranged with Sweet Peas.

Very many Carnations, largely of the sorts valued for market purposes, were well set up by Mr. C. Engelmann, and adjoining these Messrs. A. and J. McBean had a large collection of valuable Orchids.

LEONTOPODIUM ALPINUM.—The Edelweiss being quite happy in other parts, it is not necessary to find a place for it on the moraine, although I suppose space should perhaps be found for some of the recently introduced Chinese "lemon-scented" representatives of this genus.

Linaria alpina.—Lovely as this miniature "Snapdragon" is, owing to its seeding itself so freely it became a nuisance to other less vigorous plants and had to be weeded out altogether. There is always plenty of it in other situations away from the moraine, both the blue and the prettier rosy variety.

Lithospermum Gastonii was only once tried, and I failed to establish it. It seems a difficult plant to move and if taken from a pot should be planted without the ball of earth being disturbed, which one probably forgets at the time. It was flourishing in several parts of a very beautiful rock garden in a Yorkshire dale in the limestone region visited by me in 1918, the plants being nearer 2 ins. high than 4 ins., the height given in the list. It hardly seems to be a suitable plant for moraine even if it could be successfully established.

Mertensia primuloides—an exceedingly pretty Himalayan Borage with velvety, blue-purple, kaleidoscopic coloured flowers—flourishes, but the flowers are invariably aborted, owing to the frosts that nearly always occur when it is coming into flower; this is due to the moraine being fully exposed to the early morning sun, which, shining on to them after a night's frost, has a deadly effect. It should be quite satisfactory in a more sheltered position.

Myosotis rupicola.—Tried, but not very satisfactory. Very difficult to keep, and must be treated, as with other "Forget-me-nots," at the most as short-lived. Of course, the happy thing would be for it to sow and maintain itself, as do the commoner representatives of the family.

Morisia hypogea.—Finely flowered plants of this dwarf, evergreen-leaved, yellow-flowered plant are quite desiderata. It usually does well in moraine, the only danger being that, its stems becoming "woody," it has a tendency to rot off in very damp winters, although seedlings spring up round the parent plant at times.

Papaver alpinum.—The lovehest of "Poppies," which maintains itself happily for a longer period in moraine, and, as it seeds itself freely, there is usually no fear of losing it. Quite indispensable, both for its beautiful flowers and pretty glaucous foliage and for the lengthy period it keeps flowering if prevented from seeding. If allowed to seed freely it may take advantage of conditions which it fully appreciates and take up more space than is desirable.

Petrocallis pyrenaica.—Have had no difficulty with this member of the *Draba* family, with its close green cushions covered in the spring with squat pink flowers. It keeps quite compact in moraine (in richer soil it tends to become "leggy") and does not require winter protection. My plant has been in its present position seven or eight years, and, although it has increased in size, its growth has been very slow.

Polemonium confertum mellitum.—One is somewhat in a difficulty here as to what plant was really meant; this difficulty is also intensified when the plant under this name is ordered from some of the dealers in alpine. There seem to be so many inferior *Polemoniums* about, passing under good names, that one may have many disappointments

before the right plant is obtained. I do not seem to have succeeded yet, although one of the first plants received as this proved to be quite a good dwarf species with very pretty pale blue flowers on short stems; the foliage was very squat, and the plant seemed quite at home in the moraine, but never seemed to increase much, and, owing to being moved, was eventually lost. It was possibly *P. lanatum*, and it is a plant that I should like again. Other plants that I have had have produced nothing satisfactory, and *P. confertum* is still a desideratum. I find that Mr. Farrer evidently changed his mind as to *P. confertum* mellitum, as he writes at a later date that *P. confertum* is "far preferable to its variety *P. c. mellitum* which is so much commoner in gardens."

Primula × intermedia.—This hybrid could not very well be tried unless it had been obtained from Mr. Farrer's own nursery, as it does not seem to appear in lists and it is probably difficult to differentiate in a class in which there are countless numbers of hybrids.

P. spectabilis.—I tried this *Primula* more than once, but failed to maintain it for more than one or two seasons. *Primulas* have not been a success with me on the moraine, the family requiring something more substantial in the way of soil than is usually provided in the gritty moraine. If any of them do show signs of succeeding they soon seem to be attacked by pests such as *Noctua larva* or Crane fly ("Daddy Long legs") larva, which lay round about underground and gnaw through the stem at about the ground level, and you usually do not realise what is happening until it is too late.

The type of *Primula* that seems to be most satisfactory is *P. viscosa*, the very striking hybrid *P. Mrs. J. H. Wilson*, and other *P. × pubescens* hybrids, if only good forms are retained. A citron yellow flowered one that I have is a pleasant contrast to the brighter almost magenta coloured *P. Mrs. J. H. Wilson* near by. The plant referred to in 1917 as *P. leuteola* and sent me as such proved to be *Cortusa Matthioli*, a totally different plant, with pretty foliage quite pleasantly scented, and crimson, white-eyed, pendent flowers; it requires richer soil and does better away from moraine. *P. Wulfeniana*, *P. carniolica*, *P. × Venzoi* and *P. Allioni* were also tried, but without success.

Ranunculus alpestris.—This lovely flowered white "Buttercup" maintained itself for some time in the loamy part of the moraine, but only flowered very sparingly, and trying to better its condition only ended in my losing it altogether. It is now being tried away from the moraine, but owing to the very dry spring following last year's exceptionally hot summer it has not flowered. The leaves are being attacked by a leaf miner and also by the caterpillars of one of the smaller moths.

R. glacialis, is usually found very high up in the Alps and is quite common in places at the foot of the higher glaciers, in positions saturated with water trickling down from the same—conditions difficult to produce in a "waterless" town garden. It has had two trials, but never got into the second summer. The last that was tried had a place specially made for it, and was saturated with water in the early spring through free drainage. It commenced to grow, but it proved impossible to keep the slugs off it, and it never had the slightest chance of ever getting into leaf.

R. parnassifolius, although slow in establishing itself, really was the best of those tried, and

Catterly flowered very well on fairly short stems, not drawn up as is the case with plants put in the shade. The plants kept dwarf and increased nicely until last summer's extra dry spell, which threw them back so much that they were moved to a more sheltered and I hoped more suitable position, but they have failed to flower this year, as have

also the larger *R. amplexicaulis* and *R. grandifolia*.

R. Seguieri.—This Dolomite version of *R. glacialis* included in the list and stated to be easier and freer, has not been tried, it rarely being included in plant lists.

(To be continued)

A BEAUTIFUL WILD ROSE

The Musk Rose in the Temperate House at Kew this season was worth going far to see.

THE accompanying illustration directs attention to the decorative character of one of the most beautiful of the wild

Roses—*Rosa moschata*, the Musk Rose of Southern Europe, Asia Minor, Northern India and China. It is a climbing plant which, in a natural state, ascends to the tops of trees 50ft. or 60ft. high, throwing out as it climbs long rambling branches, which in their right season become festoons of large, white, fragrant flowers. As is to be expected with such a widely distributed plant there is a good deal of variation in habit and size of flowers between specimens collected in different countries and there is a marked difference in hardiness. The two most distinct forms in cultivation are marked by green and glaucous-green leaves, the latter being less hardy and a distinctly inferior plant to the former. The form with plain green leaves grows at least 30ft. high in Southern England and several fine specimens are to be seen in the Rose Garden at Kew, one being particularly well placed at the foot of a large Holly. The branches have reached the top of the Holly and the flowers are seen to great advantage against the dark background. As may be seen from the



THE MUSK ROSE, ROSA MOSCHATA

illustration the flowers are produced in clusters, the clusters often measuring from 1ins. to 1½ins. across and the individual flowers from 1½ins. to 2½ins. in diameter. When first they open the petals are creamy white, changing soon after to pure white, the central mass of stamens being golden in colour. The accompanying photograph is of a plant raised from seeds received at Kew under another name from India. Its hardiness being doubtful, it was planted in the west porch of the Temperate House. The position suited it admirably and it grew very freely. In 1921 it blossomed well, but evidently the sunny summer of last year ripened the wood better than usual and it has been a magnificent sight this year, flowering more freely

than it has done on previous occasions, the clusters of blossoms being specially fine. Plants that have grown out of doors for many years are also flowering

better than usual, which proves the accuracy of suggestions that have been made from time to time regarding this species, *i.e.*, that the best results can only be expected by a thorough ripening of the wood. During wet summers numerous very long, strong shoots are formed, but they almost invariably suffer severely during winter. If planted in good loamy soil in a position where the branches are fully exposed to sun, *R. moschata* may be expected to thrive and it cannot fail to please the most fastidious of Rose lovers. There is a variety with double flowers, but it is no improvement on the type. *R. moschata* may be found in some gardens under the name of *R. Brunoni*, a name given by Lindley to the Musk Rose. W. D.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Spinach.—Seed to produce plants which will yield pickings during the autumn and winter may be sown from now onwards at intervals according to requirements until the latter part of September. The drills should be spaced about 15ins. apart and the plants left about 4ins. or 6ins. from each other. Should the weather be dry at the time of sowing, the drills should be well watered previous to scattering the seeds. The prickly type is the most reliable for these sowings, but should these have failed on some soils to give sufficient returns, a sowing should also be made of the Spinach Beet or Perpetual variety, from which an abundance of leaves may always be gathered during the spring.

Autumn Onions should be pulled up as their foliage ripens and laid in the sun to complete ripening before being stored away in cool quarters. In the event of the weather being showery, the bulbs should be laid on trellis-work to keep them from the ground.

Globe Artichokes.—Where this vegetable is appreciated and the plants are growing on porous soil it will be necessary to give a few waterings to aid in the development of the heads. All heads should be cut as soon as ready for use, otherwise they become tough. Stored in water in a cool place this vegetable will remain in good condition for some time.

The Flower Garden.

Hedges.—Any necessary trimming of Yew, Box or Thorn may be done now. Where close or formal effect is required a pair of garden shears must be used, but where this is not desired a pair of secateurs or a strong knife should be employed.

Helianthemums, or Sun Roses as they are more popularly called, are useful for dry edgings, as well as for the rockery and walls. There are two forms, the single and the double. The former may be raised from seed, while the latter must be increased by cuttings. Both may be propagated now, using a light sandy soil and a cold frame. Where a quantity of Sun Roses are established on a large, dry bank some of the seed may be scattered about as soon as it ripens, and quite a measure of success should be obtained in increase of plants.

The Hardy Fruit Garden.

Summer Pruning.—This work having been completed on wall trees it may, where thought necessary, be commenced on Apples, Pears, Plums, etc., growing in the open, whether trained in pyramid, standard or bush form. There is, I think, a tendency to carry out this operation too early—sometimes, with the evil result that a lot of secondary growths are encouraged from buds which should have remained dormant and, indeed, would have done so had pruning not been done so early. It is somewhat difficult to lay down any definite rules, as so much depends upon the development of each tree. A general rule is to shorten side growths, leaving from five to eight leaves, while leaders and growths required for extension may be left full length or only slightly shortened according to circumstances.

Fruit Under Glass.

Pot Trees of Peaches and Nectarines having been cleared of their fruits must be removed to the open. It is still most essential that the trees do not suffer from lack of moisture at the roots, and until such time as the wood is well matured the feeding of the trees must be kept up. This may be discontinued when the leaves begin to come off. Care must be taken that strong winds do not blow the trees over, and unless stout stakes are made use of to combat this it is better partly to plunge the pots in old ashes or on a spare plot of ground.

Pot Vines grown with the object in view of fruiting next season must be kept well supplied with nourishment and receive all the light available, as it is most important that the wood become hard and thoroughly ripened. Suppress all unnecessary lateral growths and concentrate every ounce of the plants' energies into the building up and proper maturation of firm wood and plump, well ripened buds.

H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Shallots.—Ripe Shallots should now be pulled and laid in a sunny position so that they may be thoroughly dried before storing.

Autumn-Sown Onions may also be lifted immediately they are ripe. After a thorough drying in the sun they should be removed to a cool, airy loft or shed.

Curly Kale.—Fill up a goodly portion of the ground that has been cleared of early Potatoes with some of the dwarf-growing varieties of Kale. These winter greens are always in favour, and although late in the season for general planting, nice useful heads may be depended upon for winter use if planted now. Plant fairly close in lines 18 ins. apart.

Leeks.—Complete the planting of the desired quantity as soon as possible so that they may develop into useful and well blanched specimens before the winter months. Leeks are gross feeders, so that the ground should receive generous treatment by being heavily manured.

Fruit Under Glass.

Melons in Frames.—Where the fruits are swelling they may be considerably assisted by the application of a top-dressing composed of old turf with a liberal sprinkling of old lime rubble and artificial manure. Elevate the fruits on pieces of slate placed on an inverted flower-pot, so that they may be kept clean and clear of the foliage. Keep all lateral growths in check. Syringe and close the frames as early in the afternoon as possible. Late batches coming into flower should be fertilised daily until the required number are set.

Late Crops of Figs.—Trees in late houses should have all the air it is possible to give them, and should be syringed daily to keep the foliage fresh and clean. In well drained borders abundant supplies of water will be required and the roots should be fed according to the crop the trees are carrying.

The Hardy Fruit Garden.

Late Peaches and Nectarines.—Where red spider, aphids or other insect pests are in evidence, measures should at once be taken to combat them by spraying with a reliable insecticide. Spraying with clear water in the evening is also of much benefit in promoting a free growth of both wood and foliage. See that the border is kept in a moist condition, using liquid manure where it is thought advisable.

The Flower Garden.

Herbaceous Borders.—Plants in herbaceous borders now require considerable attention both in the way of staking and tying and frequent hoeing of the surface soil so that weeds may be kept in check.

Seedlings. Run the hoe between rows of the various seedlings growing in nursery beds and see that the young plants do not suffer from lack of water.

Border Carnations.—Keep the beds well hoed and give occasional waterings with liquid manure or soot water. This not only strengthens the flower spikes, but helps materially in producing fine strong growths for layering later on.

JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

GREENHOUSE AND CONSERVATORY.

Calceolaria violacea. This beautiful plant is hardy on warm walls in Devon and Cornwall, but is also fine for the cool conservatory, either planted out in a bed or border. It also succeeds well in 10 in. or 12 in. pots. Propagation may be carried out now by means of cuttings of the young shoots, using the shorter twiggy growths for the purpose. It is by no means an easy plant to propagate, and such shoots are more likely to root than soft gross growths. The cuttings are best rooted in a close case in a cool house. The plants grow quite well in ordinary light potting compost. Plants propagated at this time and potted on as they require it, should make nice specimens for the conservatory stage next year. This plant will flower with greater freedom in its second year when grown on as a large specimen.

Clethra arborea (Lily of the Valley Tree)—The small tree is a native of Madiera, and is particularly useful for planting out in a large conservatory; it also makes fine specimens when grown in tubs. There is a variety with variegated

leaves of pale yellow and rose colour which also makes fine specimens and grows as freely as the green-leaved form. These plants are easily propagated at any time by means of half-ripened shoots about 4 ins. long. The cuttings should be put in a close case in a cool house. They will grow freely in any ordinary potting compost, and if potted on as they require it soon make large specimens.

Senecios.—There are several species of Senecio which are well worth growing for the conservatory. *S. grandifolius* and *S. Petasites* are both useful for their large handsome foliage; the former being fine for planting out in a large conservatory. *S. Petasites*, grown in 6 in. or 7 in. pots, makes good plants suitable for the conservatory stage; while grown on in 10 in. or 12 in. pots it makes very handsome specimens for standing on the ground. Both species may be propagated at this time by means of cuttings, which root readily in a close case with slight bottom heat at command.

Senecio glastifolius is of quite a different type, having thin narrow foliage. It is a beautiful flowering plant for the conservatory and it produces rosy-purple flowers in great profusion. It may be raised from seed, which it generally ripens freely, or from cuttings, which may be rooted in a close case in a cool house at this time. If propagated at this time large specimens should be obtained for flowering next spring. Being a thin, slender-growing plant, it is a good plan to put three plants in a pot, if their final potting is into 5 in. pots; they should make fine specimens for standing on the ground. They require stopping several times to induce a bushy habit. If plants are required for the stage they should be rooted a month later, and should be confined to smaller pots.

Amphicome Emodi is a beautiful plant for the cool greenhouse which produces erect rose coloured flowers with an orange-yellow throat; the foliage is also very graceful. This plant may be propagated either by seeds or cuttings. The cuttings root readily in pots of sandy soil, placed under a bell glass in a cool house. The plants thrive quite well in a light rich potting compost. *A. arguta*, although not so showy as the former species, is well worth growing for the cool greenhouse. In warm, dry situations this species, if given some protection during winter, is fairly hardy.

Helichrysum humilis (syn. *Aphelaxis*), of which there are several varieties, were at one time great favourites for the greenhouse and as specimen plants for exhibition. At present they are seldom seen except in a few trade establishments, where they are grown in a small state chiefly for market work. They are "everlasting" flowers and retain their beauty for a long time. This plant may be propagated by means of cuttings at this time. Use for this purpose small side shoots. When taking cuttings, use a very sharp knife as the stems are covered with a woolly felt-like substance and unless great care is used in trimming off the leaves, the bark is stripped off and there is little chance of their rooting. The cuttings should be inserted in pots containing fine sandy peat. Well water the cuttings with a fine rosed can and stand under a propagating glass in a cool greenhouse. When rooted pot the young plants into thumb pots, using fine sandy peat for this purpose. In subsequent pottings the peat should be of a rougher character, while a little charcoal may with advantage be added. The pots should be well drained and great care in watering must be exercised at all times, as these plants are very impatient of stagnant water at their roots.

Phænocoma prolifera is another beautiful plant producing "everlasting" flowers; even if it never flowered it is worth growing for its fine, grey coloured foliage and stems. Well matured plants attain a height of some 3 ft. This plant is propagated and grown in the same way as the *Helichrysum*, but even greater care is required in preparing the cuttings, the stems also being covered with a felt-like substance. J. COLLIS.

Royal Botanic Gardens, Kew.

British Bulbs. The Secretary of the Royal Horticultural Society informs us that there will not be a Bulb Show this year, but exhibits of home-grown bulbs will be welcomed on August 6 and 22. Applications for space should be made in the ordinary way a week before the meetings and be accompanied by a declaration that the whole of the produce shown has been grown in the British Isles.

ANSWERS
TO CORRESPONDENTS

FRUIT GARDEN.

PEAR TREE NOT FRUITING (An Old Reader).—The variety may be one that requires the pollen of a free setter to be fruitful. Furthermore, root pruning in November would be beneficial. Very severe branch pruning without dealing with the roots at the same time (year) would result in a still more robust branch growth. Water thoroughly in dry weather and apply a substantial mulch. The immediate treatment should be summer pruning in July. Cut back the current year's shoots to five or six leaves from the base. More young shoots will grow at the end of the shoot or cut-back branch in each case, and these must be rubbed out while quite small. In due time the ordinary winter pruning should be done. When root-pruning take out a trench semi-circular in form and 4 ft. to 5 ft. from the stem of the tree. Cut off all large roots crossing the open trench, then fill the latter with a gritty compost and fibrous loam, and make it all quite firm.

CHERRY TREE ATTACKED (A. S. W., Carnarvon).—The insect attacking our correspondent's Cherry tree is one of the Ermine moths (*Hyponomeuta* Sp.). The caterpillars are nearly fully fed and will shortly pupate in the nests on the tree or about the trunk, and the moths will appear about a fortnight later. These adults will then proceed to lay eggs in masses on the small twigs of the tree. The egg masses are covered over with a glutinous substance which protects the eggs and, later, the young caterpillars, which hatch in the autumn and remain under the glutinous substance during the winter. In spring the minute larvae leave their shelter and enter the expanding buds, where they penetrate the tissue and feed. In May they reappear in the open and spin up the nests or tents, which can be easily seen on infested trees. As regards treatment in the case of a single tree being attacked, it is advisable to cut out the nests with long-handled pruners and burn them. In case some caterpillars have escaped and pupated singly and the adults have laid eggs on the twigs, a lime sulphur spray should be applied at the rate of 1 in 10 in spring, about a fortnight before the buds show signs of movement—say, the first week in March.

PEARS ATTACKED (S. W.).—From careful examination of the fruit sent it would appear that our correspondent's tree has been severely attacked by the Pear midge (*Diplosis pyricornis*, Riley). This pest is a small midge which lays its eggs in the blossom. The minute maggots feed on the developing fruitlets, in many cases causing the total failure of the crop. The maggots leave the damaged fruitlets in early June and fall to the ground, where they burrow into the soil and change into pupae, which remain below ground until the following April when the flies emerge. Very little can be done as regards controlling the pest. In the cases under notice the condition of the fruitlets examined indicates that the maggots left some time ago, so that little can now be done. Good results have followed an application of Kainit to the soil beneath the trees at the end of May. The best plan would be to burn the soil under the trees to a depth of about 6 ins. This is a very laborious operation, but is the only one likely to yield satisfactory results.

MISCELLANEOUS.

DESTRUCTOR FOR BURNING GARDEN REFUSE (C. B. R.).—We do not know of any destructor of the kind described by our correspondent and advise him to write to Messrs. Osman and Co., 132-134, Commercial Street, London, E., and state his requirements. If unable to obtain the right kind of destructor, one may be made as follows; it is simple, answers the purpose and is very cheap, also durable. Procure seventy-five ordinary hard-baked bricks, make a hole in the ground 1 ft. deep and 2 ft. across, then build up a loop-holed wall round the hole in the ground about 18 ins. high. This is an ideal destructor, in which all kinds of rubbish may be burned or charred to ashes. If the wind is strong put on an iron lid; if calm, burn the rubbish without the lid on. The holes in the wall should be about 2 ins. wide, about six of them in each course, or layer, of bricks. Everything will be consumed and the ashes will be available as manure for the garden.

NAMES OF PLANTS.—N. G. W.—1, *Calycanthus floridus*, "Carolina Allspice"; 2, The Rose had fallen to pieces on arrival.—M. L.—1, *Campanula trachelium*; 2, *Cistus albus*; 3, The Rose had fallen to pieces on arrival.—M. W., Renfrewshire.—*Spiraea Menziesii*. This is a shrub (not a climber) which attains a height of 3 ft. to 5 ft. *Spiræas* thrive best in good loamy soil. Abundant moisture and full sunlight are essential.—"Wish-low."—*Arum Draconculum*.—J. B., Surrey.—*Arum Draconculum* (common Dragon).

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THE WILD GARDEN AND ITS PLANTING

AS this is one of the seasons when the wild garden is especially attractive, it may not be inapposite to consider its arrangement and planting. The wild garden of to-day has little in common with the "wildernesses" of times gone by and is, indeed, essentially modern in feeling. Like the "Yorkshire moor" style of rock garden, it is especially suited to those whose taste inclines to the realistic in Art. A well designed wild garden will nowhere betray the Art that fashioned it unless it be that the prodigality of perhaps alien vegetation calls its natural origin into question.

The plants which may be used in wild gardening are many. It is the more regrettable, therefore, to find plants there which by their habit of growth or cultural requirements are unsuitable. The ideal wild garden, like the chameleon, changes in appearance according to environment. On the light soils of Surrey it will probably be woodland in character, and Rhododendrons, Heaths, Azaleas and Kalmias will be largely in evidence, also Scotch Firs and Silver Birches. Little grass cutting will, in this case, be called for.

On richer, alluvial soils shrubby and herbaceous Spiræas will luxuriate in company with Gunneras, Heracleums and other plants largely valuable for ample foliage. In moorland districts the native Heaths may often be reinforced with other species and varieties to improve the effect. Water or natural bog in the wild garden-to-be can always be turned to good account.

Because a particular plant does well in, let us say, a Warwickshire wild garden it by no means follows that it will succeed equally well or form a satisfactory part of the picture in a Surrey one. Much outlay both on plants and labour has been wasted in establishing particular families of

plants in uncongenial surroundings only to provide effects which were not entirely happy, when a tittle of the outlay would have produced results satisfactory in every way. The plants mentioned below must, therefore, be considered only with reference to suitable environment.

Natural effects are not always beautiful, and if our wild garden is to be a success forethought must be used in the planting so that we may obtain as many satisfactory well balanced pictures as may be, not just at one season, but the greater part of the year. A certain amount of contouring is almost invariably desirable. It should assist in giving dignity to the weightier masses and should also please by its own unaided beauty of

"hillside" occasionally to get the necessary glimpses.

FOR WOODLAND WILD.

Semi-shade in woodland is, of course, the natural home of most Rhododendron species. It certainly suits the hardy hybrids admirably also, yet the average hybrid Rhododendron seems hardly suitable for the wild garden, and the same may be said of many of the species, which are often rather gaunt and unattractive when out of flower. The old Rhododendron ponticum, of which fine bushes are often to be found in woodland—it is an excellent covert plant—is admirable for the woodland wild, where its

purplish flower trusses tone admirably with the violet shadows. The common yellow fragrant Ghent Azalea is much at home in such a situation, and if it grows a little "loose-jointed," few will quarrel with it on that account. It will be found that the Japanese Maples will succeed here too. Dampish ground suggesting a little spring will accommodate the Sweet Pepper, Clethra alnifolia, the Royal Fern, Osmunda regalis, or that best of all the Meadowsweets, the brilliant rose red Spiræa palmata. Bamboos may be included where the effect desired is somewhat exotic and it biting winds are not prevalent. How effective these may be in woodland the wild garden at Wisley bears witness. In association with these



A TYPICAL WILD-GARDEN SCENE.

curve. Naturally, ways must be left through which to walk and admire the plants. These will resolve themselves into tramped paths or "sheep-tracks" in semi-woodland or quite informal grassy vistas on open ground. It will be more effective if these traverse the valleys made in contouring unless a general view is desirable, in which case the path may climb the

we may well plant many species of Lily, such as L.L. giganteum, auratum, speciosum, pardalinum, Henryi, regale and testaceum. This last again associates well with the Clary-like purple Wood Sage, Salvia virgata.

Over-thick planting is fatal in the wild garden, especially if in woodland, for space should be left effectively to display not only



HARDY GHENT AZALEAS IN THE WILD.



JAPANESE ANEMONES

the larger plants already referred to, but lowlier plants, such as Primroses, Cowslips, Oxslips, Violets, hardy Cyclamens and such bulbous things as Bluebells, Snakes-heads (*Fritillaria*), Dog's Tooth Violets (*Erythronium*), including some of the beautiful American species and varieties, *Triteleas*, etc. If space and growing timber permit, such beautiful trees as Birches, some of the Willows with coloured bark (*Salix daphnoides* and *S. vitellina*, for example) may be planted.

THE OPEN WILD GARDEN.

An open grassy glade with moderately good soil will accommodate such plants as *Heracleums* of sorts, such *Rheums* as *tanguticum*, *Gunneras*, the brilliant Willow Herb which transfigures some of our railway banks, *Epilobium angustifolium*, the purple Loosestrife, *Lythrum Salicaria* (of which the rosy forms are best), such *Berberises* as *stenophylla* and *Darwini* (keep clear of weeds until established), Brambles and Rose species of sorts, New Zealand Flax, *Phormium tenax* (not in colder localities), such Cranes' Bills as *Geranium Wallichianum* and *G. atlanticum*, Day Lilies (*Hemerocallis*) in variety, many hardy Orchises—but their special requirements as to lime or what not must have attention—and Lilies such as *croceum* and *tigrinum*. The more upright-growing *Cotoneasters*, such as *C.C. Simonsii*, *acutifolia*, *pinnosa*, *Francheti*, *frigida*, etc., Japanese Cherries, and such flowering Apples as *Pyrus floribunda*, *P.P. Schenckeri* and *Niedzwetzkyana* will furnish the knolls, and in partial shade at their feet, even though the soil be on the light side, Primroses, whether wild, coloured or blue, will flourish. If the soil be really good and they be kept free from coarse grass, the single and double Japanese Irises, *I.I. setosa* and *laevigata* (*Iris Kraemeri*) will make a brave patch of colour in their season.

By waterside or in bogland the Siberian Irises and their cousins, the varieties of *Iris orientalis*, will luxuriate, with yellow and bronze *Mimuluses* and water-loving *Primulas*—*P.P. japonica*, *Bulleynana*, *pulverulenta*, *Beesiana*, *helodoxa*, *sikkimensis*, *chionantha*, *Parrvi*, *Poissoni*, *latifolia* and *rosea*. Indeed, in ground naturally fairly moist and in partial shade most of these plants will do well quite away from water, as will the herbaceous *Spiraeas*—*S.S. palmata*, *gigantea elegantissima* and *g. rosea*, and *Ulmaria flore pleno*—and *Astilbes*. The Goat's Beard, *Spiraea Aruncus*, does not require a specially moist spot, and with its handsome foliage and towering creamy plumes is a splendid wild garden plant. The cut-leaved variety *S. A. Kneith* is less strong growing and not recommendable for the wild though valuable in the herbaceous border.

In shady corners the bulbous plants mentioned as suitable for woodland will succeed, while in more open spaces drifts of *Crocuses* and *Daffodils* will be gorgeous in their season and again in autumn the *Colchicums* will add beauty and colour. It is needless here to particularise suitable *Daffodils* for this purpose; suffice it to say that the best of all is that stately Pheasant's Eye, *Narcissus Poeticus recurvus*.

Other plants there are which will be successful or not according to the particular soils. If Brooms flourish in the neighbourhood, they should certainly be made a prominent feature of the wild garden. The same will apply to those beautiful flowers the Mallows, which often flourish in the same localities. Lupins, both the Tree Lupin, *Lupinus arboreus*, and the herbaceous forms of *L. polyphyllus* will succeed in any moderately light soil. Of many flowers which seem much out of place in the wild garden the garden Phlox may be taken as an "awful example." *Delphinium* and *Anchusa* are awkward plants which cannot truly be naturalised, but they have not the gauche, unhappy look that distinguishes the Phloxes in such planting.

Autumn colour and "berry" effects are well worthy of consideration in the wild garden. Rose species, the taller *Berberises*, the before-mentioned *Cotoneasters* and their relatives the Thorns (*Crataegus*) will first spring to mind in the latter connexion, but the combined foliage and fruit effects of two native shrubs, the Guelder Rose (*Viburnum Opulus*), and the Waytaring Tree (*V. Lantana*), should give them a high place in any list of desirable species.

COLOURED FREESIAS

A Flowery Mede—Cultivation—Seedling Raising.

YOU know the ladders at election times with either the candidates or the parties climbing up them day by day. Were such ladders displayed in the windows of our big bulb dealers I have a shrewd idea that coloured Freesias would be found to be getting on very nicely in the race for popular approval. It is but a straw; but I know of one large firm whose list, which has hitherto been immune, will this autumn be found to be infected with named varieties. This new race of flowers is catching on. If only the public could have seen "flowery mede" in my "No. 6" greenhouse

pots of Dainty, Merry Widow, Apogee, Buttercup, Conquest or La Charmante. The mede may come after. The foundation stone of success is early potting. The sooner the bulbs are snug in their pots after August 15 is passed the better. Any good light soil suits them. It is a mistake to overpot them. Seven bulbs may safely be put in a 5in. pot and so on in proportion. They should start life in a cold frame or in a cold greenhouse, and have all the air possible, provided they are kept from cold draughts and protected against frost. No heat will be necessary until November, when the first batch may be given

sufficient stimulus to accomplish the purpose in life for which we grow them. There seems to be a work-shy strain in several South African bulbous-plants, in Freesias among others, so give them any decent excuse arising from any mistake or neglect and they will remain lazily and unconcerned in the soil for a whole year just as they were before when planted. Thus, on no account must pots after being in a comfortable greenhouse be suddenly put out into a cold frame to get on as best they can; provision must somehow be made for the annual baking before their contents are once more turned out as planting-time gets near.

Timely tying and staking add much to their appearance. Allwood's wire rings are good. At the Rose Show in June I was told that a special Freesia stick was soon coming on the market, and the inventor promised to send me some for



A BEAUTIFUL GROUP OF FREESIAS.

in the early part of March, 1920, the process would have been accelerated. It is one of the floral sights that comes back to me again and again. Familiar as I had been for a long time with the different varieties, I had never before realised what a big jumble-up of them altogether was like. There were whites, primroses, yellows, red mauves, blue mauves, lavenders, with here and there real pinks, soft oranges, bright roses and tawny reds. It was so different from the barbaric splendour of the Tulips, or the rich magnificence of the Roses, or the varied grandeur of the Dahlias. It was the simple quiet profusion of the ancient mediæval garden living again in my greenhouse, and had the Three Fates or Vertumnus and Pomona suddenly stepped down from their tapestries at South Kensington or Madrid ("L'Art des Jardins," by G. Riât) and appeared among the Freesias it would not have surprised me. Please make some allowance for the uncontrolled thoughts of an enthusiast. Take them *cum grano salis*; but just try a few

warmer quarters. We no longer attempt to get the coloured varieties into flower as early in the year as the whites. They do not seem to like the unnatural treatment, and they are apt to go blind and bring blooms which are a good deal out of character. Coloured Freesias do not need the softening influence of heat. Their colours are not improved, as is the case with such Tulips as Le Notre and Sweet Lavender.

Feeding with alternations of soot-water, some reliable fertiliser dissolved according to instructions in water, and very weak cow or hen beer begins when we see signs of the flower-spikes shewing through the leaves. During the actual period of flowering none is given—only pure water—but afterwards we start again and continue until the foliage shews evident signs of dying down, when both pure water and stimulants are gradually withheld. The after-care of the bulbs is most important. The coloured varieties seem extra sensitive to sudden chills, and they need a thorough good baking during May and June to give them a

trial. None has come so far. I must jog his memory. There is, of course, the old-fashioned way of caging the plants by putting there or four sticks round a pot and connecting them with raffia or twine at two or three levels as growth proceeds.

Freesias can be so readily raised from seed that a few words on this subject may be acceptable. I always sow as early in August as possible. The difference was most marked between those sown on August 6 and those sown on September 6 when they were harvested in the second week of this month (July). Pots—preferably the 6in. size—are used in preference to pans, as the bulbs are more easily dealt with when they are turned out, it being *most* important to keep the different little lots from being mixed with one another so that each stock may start life true. In sowing it is quite worth while to place the seeds in regular order, each one half an inch from its neighbour. This tends to help matters at turning-out time. Short, bushy little twigs 6ins. to 8ins. high should be stuck among the seedlings when they have

grown 2 ins. or 3 ins. No other staking is necessary. No stimulants are given until the new year has come in, and then only in a very weak form. During the winter months they are kept in the warmest of our cool houses, where the night temperature is between 40° and 45°. About March a few odd flowers may be expected, but we usually pinch them off when the first one has opened. At potting-time each main bulb *with its offsets* is put into a 5 in. or 3½ in. pot. These are amply large enough for producing good blooms and, later on, fine bulbs.

I have dwelt on seedling raising because it is so interesting. Seed may now be had from some dealers, and should be bought at once; but I would far rather get enough bulbs of good varieties to make a few potfuls so that one can have one's own seed. Cross-fertilisation is necessary to get a good set. Carrying out this operation and watching the results is most fascinating, and in the case of Freesias there is no long wait of years as in the case of Daffodils and Tulips. With good culture and management eighteen or nineteen months suffice.

JOSEPH JACOB.

ANTIRRHINUMS FROM SEED

DURING the sixties and seventies of the last century, florists prided themselves on improving the Antirrhinum. Popular varieties in those days were spotted or striped or both, much like the Carnations of the florist. Of twelve of the best named varieties, two were shaded, one a delicate rose self, and all the rest striped or spotted. These named varieties were popular exhibition flowers, and there was much emulation as to who should win the leading prizes. This fashion soon died out, but it still persists to some extent in the North and named striped varieties are yet offered by

some of the Scottish florists, though they now have a list of bedding varieties. Tall, intermediate and Tom Thumb strains existed in those days, and cultivators could grow bushes measuring 7 ft. by 5 ft.

MODERN IMPROVEMENTS.

The more recent improvements have been to get beautiful and bright self colours, or an attractive combination of two or more colours, giving good general effect when looked at from a short distance. All three sections continue to be improved in these respects, but the intermediate strain is the most popular, most numerous in varieties, and most useful. Many beautiful self colours now come fairly true from seed, or practically dependable as to colour, where the seed beds or cultures have been properly rogued. One is tempted sometimes to save one's own seed, but this inevitably leads to disaster in all gardens where two or more varieties are grown within easy distance of another. Antirrhinums are very popular with humble bees, which have no difficulty in opening and entering the dragon mouthed flowers, and cross them hopelessly for garden purposes. On first thoughts one might consider the resulting seedlings as reversions, but after a little reflection and on observing the bees at work, no one need hesitate as to the true cause of the mixing of colours in stem, leaf and flower.

TIME TO SOW.

Antirrhinums are sown at various times and under a variety of conditions, but the best time is undoubtedly in August or early in September, either in a cold frame, or a cool greenhouse. This gives the plants time to acquire strength under cool conditions, and if pinched once or twice the seedlings will make bushy specimens by the time they are planted out at the beginning of April. The Antirrhinum is a hardy perennial when grown in well drained, firm and not too rich soil, but it gives by far the best results, in longer spikes and larger flowers, if treated as a biennial, by being sown at the time indicated and wintered in a cold frame or cool greenhouse. Drip or damp is the worst enemy of Antirrhinums, and for that reason they should be reared and kept under drip-proof glass structures during winter and well ventilated except when it is actually freezing.

Good plants may, it is true, be raised from sowings made in January or February, germinating the seeds in a fairly brisk heat, but afterwards ventilating more or less freely according to the weather and keeping the plants exposed to all available light near the glass. Very good results may be obtained by this method, but the plants have not the same time to get strong and allow for pinching as when sown in August.

PREPARATIONS FOR SOWING.

When Antirrhinums are to be raised in any quantity it is best to sow them in boxes, either in lines or broadcast, the former being the most

convenient where numerous varieties in moderate quantity have to be reared. The boxes should be well drained with crocks all over the bottom, which should have slits or holes to let the superfluous



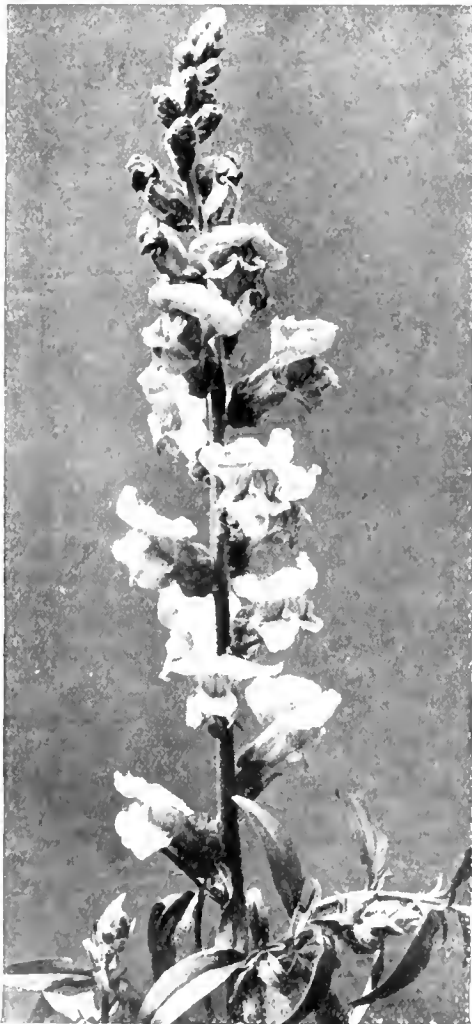
A TYPICAL LARGE-FLOWERED SNAPDRAGON.

water drain away. After putting some half decayed leaves or siftings of soil over the drainage, the compost should be filled in, pressed until fairly firm and made level, within a quarter of an inch or a little more of the top. Any light sandy soil, with some leaf soil in it will answer the purpose. It should be sifted to take out the lumps and other rubbish. The watering of seed boxes is always an important operation, and can be done by watering them heavily twice with a fine rose on the can, thoroughly to wet the whole of the soil. If there is any doubt about this, a sure plan is to submerge the boxes half their depth in a tub of water and leave them there till the moisture has risen to the top.

SOWING AND AFTER TREATMENT.

Whether the seeds are to be sown in lines or broadcast, it is always good policy to sow thinly, to promote a short-jointed sturdy habit, so that if they cannot be transplanted as soon as ready, no great harm will result if they have to wait a week longer. The seeds are small and this conduces to thick sowing, which should be avoided. Cover the seeds with a thin layer of the same compost and water that down with a fine rose. Place the boxes on ashes in a cold frame and keep the lights closed till the seeds are well up, when top air should be given. Should the weather be dry and bright, in order to prevent the soil in the boxes from getting dry it may be necessary to resort to shading. It is desirable to avoid watering as long as possible till the seeds have germinated, when the ventilation of the frame will make it necessary in dry, bright weather. Considering their internal structure and the stores of food surrounding the embryo, the seeds do not take long to germinate and after that event the seedlings grow rapidly. Hence a good reason for sowing thinly and for giving free ventilation to prevent them from getting drawn.

As soon as they can readily be handled they should be potted off singly in long thumb pots, transplanted into other boxes, 2 ins. apart each way, or directly into a cold frame on a prepared



THE BEAUTIFUL CLEAR-PINK INTERMEDIATE VARIETY NELROSE.

Best for winter flowering.

bed. About 3ins. or 4ins. of sandy soil and leaf mould laid over a level bed and pressed firm will answer the purpose. Dibble them into this in lines 3ins. apart and 2ins. between the plants at least. Give a good watering to settle the soil and keep the frame close for a day or two. Shading may or may not be necessary till the seedlings pick

up, when increasing ventilation should be given. Antirrhinums are liable to get mildew if kept unduly close for any length of time. With this exception they are not much subject to disease. They are, indeed, of easy culture, if their requirements as to light and air are well attended to all through the winter. J. F.

DWARF POLYANTHA ROSES

For the decoration of house and garden.

THE dwarf Polyantas, or as they are more familiarly called, the "Poly-Poms," originated from a cross between a Tea Rose and Polyantha simplex. In the Rose Annual for 1916 Mr. Walter Easlea, writing on this class, states that the first variety was Paquerette, which appeared in 1875; and though others followed, I think the two varieties which first made their way into many rose gardens were Cecile Brunner, 1880, and Perle d'Or, 1884. These have perfect little flowers of shell pink and apricot yellow respectively, and are exceedingly pretty if allowed to grow into good sized bushes; but if pruned hard they are apt to put up rather ungainly and leggy sprays, and are therefore not particularly suitable for bedding.

Now it is as bedding plants that these Poly-Poms are most valuable; therefore the advent of Mrs. W. H. Cutbush in 1900 was a very real gain to our rose gardens, and in spite of the beauty and brilliancy of many of the later varieties, I think it is true to say that Mrs. W. H. Cutbush still holds her place as the most popular of the

dwarf Polyantas. It has practically all the qualities useful in this class of Rose, a dwarf habit, good foliage, small flowers in good sized clusters of a particularly bright clear pink, which are freely and continuously produced and which stand a reasonable amount of rain without being spoilt. The only good quality in which it is entirely lacking is that of fragrance, and in this respect Ellen Poulsen (1912), with prettily shaped blossoms of cherry rose colour turning to soft pink, is superior to Mrs. Cutbush. Under glass Ellen Poulsen is quite first class, the flowers coming of a brighter and clearer colour than they do out of doors, and it is a favourite for cutting and bringing into the house; indeed, for all purposes for which a really dwarf variety is required Ellen Poulsen is hard to beat.

The Orleans Rose (1909) is more vigorous than the two last varieties and comes into flower a little later. It makes extra large sprays of deep rosy pink flowers and is very useful for cutting and putting into fairly tall vases. A charming little rose of a pale pink shade is Perle Orleanaise. This is one of the dwarfiest in habit, though Coronet,

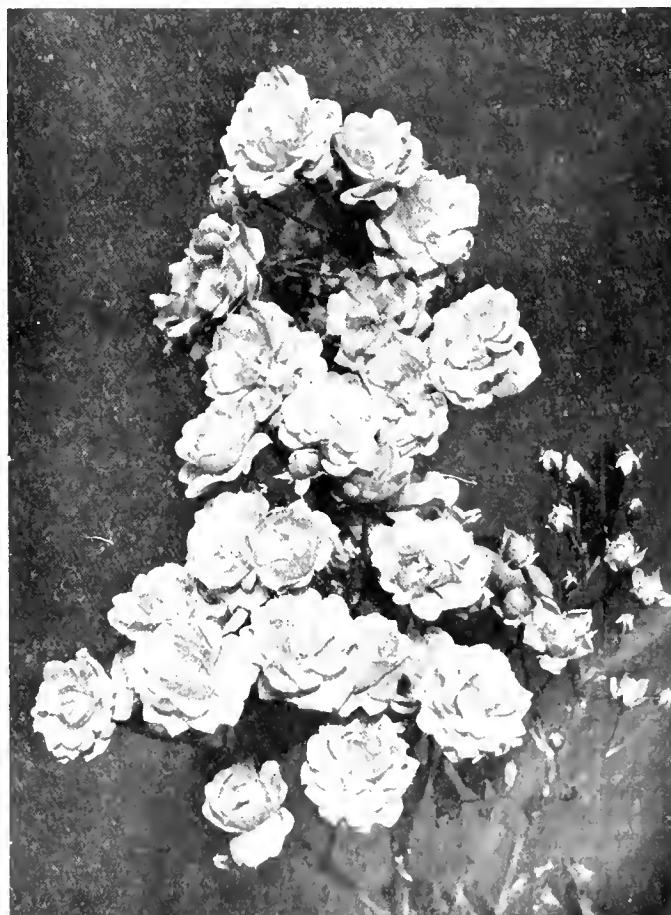
with flowers of deep salmon flushed with pink, makes a good companion for it. The new Coral Cluster, if it proves to be as good in the garden as it is under glass, is sure to become very popular, for its soft salmon tints are very attractive and would be charming used for table decorations by artificial light. Jubana is another pale salmon coloured variety which is well worth a trial.

For some time Jessie, with bright cherry crimson flowers, was the best of the red Polyantha, but in the last few years several good reds have been brought out. Triomphe d'Orleanaise, bright carmine, large trusses; Koster's Orleans, a deeper coloured and less vigorous Orleans; and Verdun, similar to Koster's Orleans, but not so clear in colour, are three good varieties—if I eliminated one it would be Verdun. The best red in this type is undoubtedly Edith Cavell; the blossoms are really bright dark crimson, changing with age, not to dull pink or bluish red, but to blackish crimson. It is of the same habit and height as Koster's Orleans. A very dwarf and brilliant crimson variety, well named Eblouissant, is, on account of its extra dwarf habit and freedom of flowering the most useful of the reds as an edging to beds of taller Roses. It is in some respects more like a China than a Polyantha; the colour is very much that of the old Craunoisic Supérieure.

Katharine Zeimet is an excellent very free blooming white Polyantha. It comes early into flower. Yvonne Rabier is another good white; it is, however, prettier when allowed to grow into a good sized bush than when pruned hard. It has a delicious fragrance. Anne Marie de Mont-ravel is a dainty, very dwarf variety, with unusually well shaped little blossoms. Little Meg, a cross between a white Hybrid Tea and Shower of Gold, is a great favourite of mine. It has glistening



APTLY NAMED, POLYANTHA ROSE CORAL CLUSTER.



THE NEW GLORY OF HURST BIDS FAIR TO SUPERSEDE ORLEANS ROSE.

dark foliage, apparently quite mildew proof, and pretty white buds tipped with red which open to pure white flowers of a fair size and shape. It is very perpetual and has a charming effect when cut for arranging in small baskets or vases; it lasts a long time in water.

I know of no really satisfactory yellow Pompon. George Elger is the best; it is free flowering, and the buds are a good yellow, but they open to rather an uninteresting pale shade. We want a yellow of the brilliant colouring of Mrs. Wemyss Quin or Christine.

We have found the most satisfactory way of growing these dwarf Polyanthas is in small round

beds on the lawn—about a dozen plants in the bed. We prune them very hard towards the end of March. Like all Roses, they require a good deep rich soil to start with, and a certain amount of liquid manure during the summer adds to their vigour. If I were limited to growing half a dozen for bedding my choice would be: Mrs. Cutbush, Orleans and Ellen Poulsen, pink and rose; Edith Cavell and Koster's Orleans, crimson; and Katharine Zeimet, white.

For edging other rose beds, Eblouissant (crimson), Anne Marie de Montravail (white), Coronet (yellow and pink) and Perle Orléanaise (pale pink) are on account of their dwarf habit the most desirable.

For larger, unpruned bushes, Yvonne Rabier (white), Marie Pavie (white and pink), Cecile Brunner (shell pink) and Perle d'Or (yellow) are hard to beat. Léonie Lannesch is a curious terra-cotta variety with a pleasant fragrance.

The great value of these dwarf Polyanthas is their hardiness, their bright colours and freedom and continuity of flowering and their compact habit. All these qualities make them particularly suitable for small gardens. They are, in fact, ideal bedding plants, with the inestimable advantage of being perfectly hardy. As cut flowers they are very gay and cheerful, and all last well in water.

WHITE LADY.

CLIMBERS FOR PERGOLAS AND ARCHWAYS

IN the very large garden a pergola may appropriately be clothed with one kind of climber, and this is often exceedingly effective, as, for examples, the Rose Walk adjoining the Iris garden at Kew and the similar structure supporting a great variety of ornamental Vines running south from the refreshment pavilion in the same gardens. At Bodnant, in the wonderfully beautiful grounds of Lady Aberconway's North Wales home, a pergola solely of Laburnum has entranced thousands of visitors, though few would have thought of using the "Golden Rain," which becomes a tree when allowed to grow naturally, for such a purpose. But under skilful pruning and training it became a complete success at Bodnant. In a smaller garden in Surrey there is a beautiful little pergola of *Wistaria multijuga*, which is exceedingly effective, though, unfortunately, the pergola was not made sufficiently high to permit one to walk comfortably under the long racemes when the *Wistarias* are in flower. The question of head-room is important in relation to the full enjoyment of a pergola and, perhaps in a lesser degree, a climber-clad archway. This must also govern the selection of climbers, as those which should be allowed to hang freely in order to disclose their full beauty cannot well be planted to ramble over pergolas which are much less than 8 ft. high.

Roses are, of course, indispensable for the mixed pergola. Within the limits of their habit of growth the choice of varieties must be a matter of individual taste, but when making a selection it should always be borne in mind that such as *Albéric Barbier*, *American Pillar*, *Bush Rambler*, *Carmine Pillar*, *François Juranville*, *Léontine Gervaise*, *Goldmech* and *Tea Rambler*, to name only a few of the popular varieties, are, while exceedingly beautiful when in flower, purely seasonal and unlike *Ard's Rover*, *Grüss an Teplitz*, *Mme. Alfred Carrière*, *Reine Olga de Wurtemberg* and others, which are more of a perpetual character. Many of the more free-growing Roses, and therefore of great value for furnishing pergolas and archways, are generally somewhat bare below. In the case of the pergola which is associated with narrow borders of Lilies and herbaceous plants a very charming arrangement this is in the nature of an advantage, but when it is purely a pergola it becomes a fault, which, however, can easily be remedied by planting a less vigorous sort with that which will cover the cross timbers. Different shades of the same colour are exceedingly effective or, if preferred, a direct contrast may be provided. For the sides of a gateway or open masonry arch the larger-flowered single Roses are very beautiful, and if it is a southern aspect the *Macartney Rose* (*Rosa bracteata*) is greatly to be recommended. It is a very distinct Rose that in the full sun

becomes exceedingly charming, as also do *R. levigata* (syn. *sinica*) and the silvery pink variety *Anemone*. Other desirable large single Roses

it receives fair attention, it could be planted against the pergola as well as the archway. The *Virgin's Bower*, as *C. Flammula* is often called, bears

abundant trails of fragrant white flowers during the late summer and autumn. Of the large-flowered hybrids the names are legion. The *Patens* group are the earliest to flower, then come the *Florida* varieties, followed by the *Lanuginosa* group and, last of all, the splendid *Jackmani* sorts.

The mixed pergola is not complete without at least one plant each of *Honeysuckle* and *Jasmine*. For general purposes the best flowering *Honeysuckles* are the *Early Dutch* and the *Late Dutch*, but *Lonicera japonica*, *L. sempervirens* and *L. Heckrottii* all have great merits. That largest of all *Honeysuckles*, *L. Hildebrandiana*, is unfortunately only for the most favoured positions out of doors. As a foliage climber the golden *L. aureo-reticulata* is of value and often seen on garden arches.

The common *Jasmine*, or *Jessamine*, was probably the first climber to be cultivated in this country, and its merits are thoroughly well known. But on the pergola it should be kept within bounds or it will encroach on the other climbers. Although strictly they are not climbers, there are two



THE GOLDEN BLOSSOMS OF FORSYTHIA SUSPENS A ENLIVEN PILLAR OR ARCHWAY IN LATE WINTER AND EARLY SPRING.

include the orange-flushed *Carmine Isobel*, the deep brownish red *Moyessi*, *Sheila Wilson* (light scarlet with yellow base) and the pale cream *Una*.

The great family of *Clematis* gives a wide selection of climbers for the pergolas and archways. The beautiful and popular *Clematis montana* is almost too vigorous for the pergola unless it is carefully and systematically thinned after it has covered the allotted space, but is admirable when trained to archways and allowed to hang down in graceful trails. *C. Flammula* is of similar habit, though not so rampant, so, provided

yellow-flowered species which have distinct value for the pergola. *Jasminum nudiflorum* is an old favourite and could well be associated with the white *Jasmine*, when it would furnish the uprights, while the later-flowering species will give its best display along the cross-timbers. The summer-flowering *J. revolutum* is, for some unaccountable reason, a neglected shrub. Its free, yet lax habit makes it very suitable for the pergola and for archways. Its good yellow, fragrant flowers are produced over quite a long period and, being nearly ever-green, is an additional attraction. By judicious

pruning flowers can be obtained along the full length of the plants.

Besides these, what one may term indispensable climbers, there are a great variety of flowering species which will add great interest. *Akebia quinata* and *A. lobata* will readily clothe the pergola, and in a favourable season the flowers will be followed by fruits of uncommon appearance. Of the various hardy *Aristolochias* the Dutchman's Pipe, *A. Siphon*, and *A. moorpinensis* may well be included. *Berberidopsis corallina* is a beautiful shrubby climber for the north or north-west side of the pergola in the warmer parts of the country, and *Bignonia capreolata atrosanguinea* is also for favoured places, though rather hardier. For the warm archway few plants are handsomer than *B. (Tecoma) grandiflora*, which when established produces large racemes of splendid flowers. *Forsythia suspensa* and the even more striking *F. spectabilis* may well be planted to furnish the uprights of any fairly broad pergola.

The fragrant Blue Passiflower is quite hardy in the western counties and in many other parts the roots will survive if they receive a little protection. It is such a beautiful and interesting climber that it might well be tried even when there is some element of doubt as to its hardiness. *Passiflora corulea* grows so quickly during the summer that, although the frosts will often kill the shoots to the ground-level, it will furnish its allotted space and flower freely from midsummer to late autumn. *Periploca graeca*, the Silk Vine, is not very showy, but it is an interesting climber that will grow quickly, though in this respect *Polygonum baldschuanicum* surpasses it and also seems quite indifferent as to soil—it will flourish exceedingly in the most poverty-stricken places. The pleasantly scented, abundant, trailing panicles become almost a cloud of whitish flowers, and the effect is continued, enhanced by a pinkish tinge, on the seed vessels, which persist for a long time. The *Wistarias* are rather better adapted for the archway than for the pergola of mixed shrubs, though they can be used with great effect on the latter structure if the long shoots are regulated as they grow. *Solanum crispum* is wondrously beautiful when it can be grown well, but this usually is only in the warmest part of the country. Elsewhere it should be tried for the brick archway facing south.

Chief among the climbers that are used for their foliage come the many hardy Vines, and these include *Vitis armata* Veitchii, *V. Cognata*, *V. flexuosa* Wilsoni, *V. Henryana*, *V. Thomsoni*, *V. Humberti* and the cut-leaved varieties of *V. vitifera*, the Grape Vine. *Ampelopsis* Veitchii is botanically a species of *Vitis* (*V. monstrosa*), and its value has long been established. A timber,



A PLENITUDE OF BLOSSOM.



WISTARIAS ARE ADMIRABLE PERGOLA PLANTS.

chinensis is a noble-foliaged climber that will rapidly furnish a part of the pergola or an archway with very handsome leaves where ornamental

foliage is esteemed, and it has great value in the pergola scheme; a selection of the many Ives should certainly be included. A. CECIL BARTLETT.

THE CARE OF ORCHARDS

Orchards should be places of beauty and utility, and to achieve both ends they must have summer attention. Hereunder are mentioned a few things that ought to be done now.

IN these days it is not the custom to plant fruit trees in orchards, as was the case a century and more ago, and for this we have largely to thank the introduction of the dwarfing stocks on which trees are now almost invariably worked by budding. These are of compact habit, come into profitable bearing several years sooner than the regulation orchard standard, give a higher average of quality, and are infinitely easier to manage in all the numerous and varied details of treatment.

It has frequently been urged that all the orchards of the country should be uprooted because the fruits are generally round about third grade, are commonly blemished, and the yield is normally biennial. While I should personally, prefer bush trees in practically all instances, I am quite satisfied that the three reasons which have been spread in favour of grubbing are thoroughly unsound. If one wants to find orchards which ought to be destroyed, one can find them in plenty—congregations of gnarled old trees to which a thought is never given and which, consequently, give unspeakably wretched returns.

There are, however, many orchards up and down the country that have been planted intelligently and which are capable of developing grand burdens of fruit season after season, and for such it were the height of folly to advocate destruction. On the contrary, they deserve to be cared for to maintain them when they are at a fair standard of excellence, and to be specially considered where the prospects justify exceptional attention.

This is not, as all readers of THE GARDEN know full well, the period of the year when serious renovation work can be put in hand, but it is indisputably a period when the burdens of the year may be substantially helped to the ultimate benefit of the cultivator, and when the foundation for succeeding crops can be materially strengthened.

Putting on one side the disadvantages and difficulties of pruning, cleansing, gathering and other cultural details of standards compared with bushes, since this is not a moment when they can be discussed with practical utility, let us consider the things which should be done during the immediately ensuing two months in direct aid of the present principally and of the future secondarily.

At the height of summer, when standard and half-standard trees are in full growth, carrying heavy burdens in the fat year and building up to the point of perfection blossom buds in the lean year, they suffer most of all from lack of food, with lack of light and fresh air as an equally prejudicing factor in those instances where the buds are so dense that they cannot be seen through clearly at all times of the year. We can deal in varying degrees according to circumstances with the former, but we can do nothing in respect of the latter beyond the prompt removal of dead wood whenever it is seen. It is true that most orchards are "fed off," but the amount of food resulting from this, except, perhaps, when pigs are abundantly utilised for the purpose, is comparatively small and totally inadequate to meet urgent demands.

One of the most desirable things to do, then, now and onwards to the middle of September

is to use fairly strong liquid manure with a generosity which would lead inevitably to considerable trouble if it were given to bush trees in plantation form. The difference lies in the fact that in the orchard it is safe to assume that the grass will appropriate not less than half the nutrient value, whereas in the plantation it is not an insurmountable difficulty to ensure that nearly all the benefits go to the trees.

In many orchards, one might say the majority, it is the custom to keep a circle cut out round the bole of each tree in which weeds are not permitted to grow, and great virtue is set upon it. If the circles were increased in size annually with top growth and their margins were maintained at the full spread of the branches, there can be no doubt as to their value and importance, but the 3ft. rings which are usually seen serve the purposes of encouraging a little fresh air to find its way into the soil and preventing the serious accumulation of rubbish at the base of the boles, thus substantially reducing the harbours to so beloved of the pests of fruit trees; beyond those two things, certainly important, they are of no appreciable value. They are called attention to at this juncture in direct association with feeding because it is by no means unusual to see amateurs pouring on liquid manures and dredging on concentrated fertilisers in the hope that the trees will derive full benefit. This they will not, cannot, do. It is obvious that there must be some spread of the moisture as it passes down, but the bulk will go direct, and it is fair to estimate that half the benefits will be lost, while if the soil happens to be on the dry side the proportion wasted will run to not less than three-quarters.

The active feeding roots of the trees are principally approaching to beneath the extreme spread of the branches, and they extend always a short distance beyond them. If it is desired, therefore, to give sustenance which will be almost instantly available for appropriation, it must be applied at, or approximately at, the position indicated. With limited circles this is impossible, and extending beyond come the grasses, so that one is forced to bore holes about 2½ in. to 3 ft. deep at similar distances asunder and 5 ins. or 6 ins. in diameter at the top over the extremes of the comparatively wide area and to fill them repeatedly with the liquid at command at intervals of ten to fourteen days. Then an immense amount of good will be done to the crop of the season and to the fruit-buds for next year which are building up to perfection. It must be borne in mind, though it is improbable that the reminder will have real substance this season, that when the soil is dry it must be efficiently moistened with pure water before liquid manures are used to reduce the loss of the foods they contain and to obviate any danger of the strong liquor used damaging any tender roots with which it may come in contact.

It is imperative, too, that cleanliness shall be maintained at the foot of the trees, and also, as far as it is feasible to accomplish it, in the branches also. If it is convenient to turn in a flock of fowls, by all means do it, because they will prove to be assiduous searchers for grubs, and consequently will reduce the trouble from insect

attacks in future seasons. Failing these industrious scavengers, which give at any rate some financial return for the work they do in the form of eggs, a strong, sharp rake should be used with frequent regularity to remove every scrap of rubbish not from the neighbourhood of the trees merely, but right out of the orchards; and the surrounding hedges and ditches must similarly be kept in scrupulously clean condition for the same reason—reduction of future danger from insect enemies.

If woolly aphid or American blight is a trouble of the moment, spare no efforts to eradicate it as quickly as possible. A touch of a drop of methylated spirits, sweet or linseed oil will account for all those which are readily accessible, while for the heads Woburn Tobacco Wash used as the manufacturers instruct, will be found invaluable and will do no harm even to young leaves. It should be sprayed, not syringed on. In the routine process of cleaning fallen fruits will be removed, but in the intervals between rakings all such ought to be picked up the instant they are seen, for destruction or consumption, this being of outstanding importance when fruits are falling as a result of codlin moth attack; the grubs leave the fruits shortly after they fall, and are then much more difficult to deal with.

A middle of September task which must not be forgotten in any circumstances in orchards is the attachment to the trunks and to the bases of the main branches of sticky or greasy bands which will prevent the upward march of the wingless female Winter and other injurious moths into the heads of the trees. Notwithstanding the fact that the bulk of the enemies will be caught before the end of November, it is most wise to keep the bands fully effectual until at least the middle of next March by renewals which will vary in frequency of necessity with the material used and the weather. W. H. LODGE.

A CHARMING NATIVE

I COULD write ever so much about *Echium vulgare*. It would make a good text for a long sermon, but although I am going to divide what I have to say into three heads, I hope to put it all in a moderate-sized nutshell. First, *Echium vulgare* is nothing but the name of a British plant written botanically in Latin. Those familiar with our wild flowers know it as Viper's Bugloss. "Are not Abana and Pharpar, rivers of Damascus, better than all the waters of Israel?" How many of our native plants are neglected seemingly because they are native? Viper's Bugloss is one. This is very strange, because real blue in flowers is uncommon. Secondly, Viper's Bugloss is a splendid plant for cutting. Its 18 in. to 2 ft. long sprays are grand in good-sized vases. The buds open just as if they were buds of a *Gladiolus*. In the cutting quarters of a large garden a bed of it would be found very useful. Thirdly, its English name is a good instance of the once fashionable and all-important "doctrine of signatures." I must not start on this fascinating subject. William Coles, whose "Adam in Eden" may be described as our English text-book, shall be my spokesman and say all that need be said in a general way: "The Signatures likeness are taken notice of, they being as it were the Books out of which the Ancients first learned the Vertues of Herbes; Nature or rather the God of nature having stamped on divers of them legible Characters to discover their uses." Thus because the seed of our plant has a distant resemblance to the head of a viper, it was held to be a cure for the bites of snakes; just as those plants with yellow juice were said to be good for jaundice. MAELOR.

LAXTON'S STRAWBERRIES

THE Strawberry is the one fruit for which space can be demanded with complete justification in all gardens, wholly irrespective of size. It is true that the usual practice is to cultivate the plants in cycles of three years, in the maintenance of which the oldest bed is grubbed annually and a new one planted to take its place. Under rational treatment, especially in regard to the quantity of manure incorporated with the soil when the fresh bed is in course of preparation, the system gives excellent results and, broadly speaking, it may be said to be the best. Nevertheless, where it is difficult or impossible to ensure satisfaction by this method owing to the arrangement of other crops, it is a simple matter to produce magnificent yields when the plants are utilised as edgings to

since their nurseries may be fairly regarded as the most representative breeding places of this fruit in the British Empire. Thence have come, to find ready welcome in the gardens of the world during the past three or four decades, most of the finest varieties in cultivation. An excellent foundation for the great work was laid by the late Mr. Thomas Laxton, it is maintained in the second generation by Messrs. William and Edward Laxton, and in the third generation by Mr. Edward Laxton, jun. There are scores of acres devoted to standard varieties, comparative novelties, others of proved merit which are being increased until the stock is big enough to justify distribution, and to seedlings of varying ages which have not yet won their spurs—there are thousands of these in the stage of individual plants of which every cross is recorded



A PROBABLE SUCCESSOR TO ROYAL SOVEREIGN, STRAWBERRY THE DUKE.

a path, fruited once, and then consigned to the rubbish heap. This is often, in fact, the only practicable manner of providing the requisite accommodation in very small places.

No matter, however, what system of culture may be chosen, it is most necessary that the variety or varieties grown shall be of the best. The average yield to each plant must be a good one, the fruits must be handsome in shape, rich in colour (though this may vary from light to dark), and, perhaps most important of all, seeing that we of *THE GARDEN* grow the Strawberries to eat ourselves and not to dispose of in the markets to other people, the flavour must be rich, with a distinct tendency to cleanse, not to cloy, the palate. Sufficient importance is not attached by the majority of amateurs to the fact that when a variety is grown and propagated in the same garden year after year there is a marked deterioration in vigour, and that it is not merely desirable but very decidedly advisable that fresh stock shall be purchased at limited intervals from a different soil and climate if the best results are to be achieved consistently.

With a view to ascertaining whether there was anything of conspicuous merit among the new or comparatively new varieties, a visit was paid recently to Messrs. Laxton Brothers', Bedford,

and the merits or demerits of which are accurately entered in the firm's books. Many, not all, of these were closely examined, and a few, a very few, were tasted, and it must suffice to say that some were delicious and others were the reverse.

CORRESPONDENCE

USE OF THE R.H.S. HALL.

My council have had under consideration the charges sought to be imposed on kindred societies for the use of the Royal Horticultural Society's Hall, which, as you know, was built by public subscription and intended to further horticulture, and have made arrangements to hold their shows elsewhere in 1923.—COURTNEY PAGE, Hon. Secretary, National Rose Society.

IRIS NOMENCLATURE.

WHY Messrs. G. G. Whitelegg and Co. should consider it necessary to "broadcast" the news that I am associated with the firm of R. Wallace and Co., Limited, I do not know. After fifteen years connexion with that firm it would be hopeless for me to prove an alibi, even

Considerably more attention was directed to the comparatively new varieties already on the market, and it was decided after many tests that Marshal Foch, Sir Douglas Haig and Titbit were of conspicuous merit. Each has an excellent constitution, and, while it cannot be claimed for them, or for any Strawberry known, that the results will be equally satisfactory on all soils, these have been so generously praised in letters from expert gardeners in all parts of the British Isles that those who have not yet given them a trial need not feel the slightest hesitation in doing so. The first named ranks with the maincrop sorts, the second named is notable for earliness, while the last named is a maincrop, perhaps just on the small side, but it has an exceptionally rich flavour—it was, in fact, the finest of the group in this respect that we tasted, proving superior to even the great Marshal Foch.

Mention must on no account be omitted of the novelty of the year—Abundance. This is a Strawberry of Strawberries, and if it maintain in all soils the merits which made it so outstandingly apparent among the hundreds of thousands of plants in Goldington Road Nurseries, Bedford, it will soon be King Strawberry of our gardens. It belongs rightly to the mid-season section and is, naturally, extremely robust and vigorous in habit, characteristics which should serve to warn growers to guard against excessively manuring the ground in preparation for it. The glowing scarlet, very firm fruits are wedge-shaped, rather above the average in size, and the flavour is truly excellent. Add to these proud recommendations the fact that the plant is a very heavy cropper, and it will be agreed that it is justifiable to say that Laxton's Abundance is a Strawberry fully entitled to a trial in every garden.

Just a word to those who have more space in their gardens than is necessary to meet personal requirements. If they want to grow half an acre or an acre of Strawberries for sale let them go for The Duke. It is early, a grand cropper, firm and therefore a good traveller, and if the flavour is not that of a Marshal Foch or a Titbit it does not matter very much, since someone else is to eat it.

Laxtons do not, as their supreme position as introducers of Strawberries has led many people to suppose, restrict their attention to this fruit; on the contrary, they have given us marked improvements in Apples, Pears, Currants, Goosberries, Raspberries and other kinds; but while we stand on the threshold of the Strawberry planting season, the kinds just named do not come to that season until the autumn and winter, and reference to them may, therefore, usefully be left over until that practical period. H. L.

if that association were a crime. In any case, if it is a crime, I am proud to be able to plead guilty.

With reference to the remark about the manner in which they have dealt with *Iris ochraceo-cornulea* in their *Iris* catalogue, I have no doubt that this is quite satisfactory. In any case it is a matter of indifference to me.

Reference to my notes on this question must convince everyone interested that nothing that I have written was intended to cast an aspersion on either their commercial integrity or business procedure. I have the highest opinion of both.

One point, however, in the letter that does concern me is the accusation of my lack of veracity, and this I am compelled to deal with. They say: "This *Iris* has never been offered in any *Iris* catalogue hitherto published in this country, on

the Continent, or in America." One example will be sufficient. I have before me two successive editions of the catalogue of Messrs. Millet et Fils, a French firm of some considerable standing, and in both I find the following: in the second edition the page is 13:

"OCHRACEA-CŒRULEA (Denis) très tardif, jaune citron et mauve lilacé, violet cobée, coloris original" (followed by price).

The next statement made in their letter is that "the name Sunset has not previously been appropriated for any other variety in any Iris catalogue with which we are familiar, nor does it appear in the American Iris Society's List of Irises," etc. I do not know which edition of the Iris Check List they possess, but in the copy that I have before me, on page 34, in the second column, the thirteenth name down the list is Sunset T. B.

With reference to their concluding remark in this paragraph. They have the indisputable right to name any number of different plants with the name "Sunset" if they wish to do so; whether it is wise or conducive to the avoidance of complications is another matter.

I might point out that, in addition to being registered in America among the varieties in commerce in 1919, see Iris Check List, page 18, column 1, thirteenth name down the list (curious how this 13 recurs), and having been certificated in London, it has also been certificated by the Société Nationale Horticole de France under the name *Ochracea-cœrulea*. This latter award had escaped my notice when writing previously. Thanking you in anticipation for your courtesy.—
GEORGE DILLISTONE (of R. Wallace and Co., Limited, Tunbridge Wells).

BESCHORNERIA AND LITHOSPERMUM.

WITH moderate shelter the *Beschorneria* should be easily grown in the South. Here, in a valley where a small degree of frost is injurious, owing to the proximity of the Avon, *Beschorneria Roseana* is scarcely affected even by a sharp winter spell, while such plants as *Tricuspidaria*, *Euryphia cordifolia* and most of the *Hydrangeas* are severely cut. South Devon is a name to conjure with, and ten miles to the south of this place Oranges, Lemons and Citrons are growing in the open against a wall—but not here!

As to *Lithospermum*, whence comes the superstition that lime is obnoxious to it? The race is a passionate lime-lover. I have, to prove it, planted *Lithospermum Heavenly Blue* on a mass of little else but lime rubble. It has been there for a year, where, despite the drought, it has flowered, and its leaves are dark green and vigorous. No! what *Lithospermum* dislikes is winds or draughts. If in an exposed position it is then that it exhibits those blackened twigs and leaves which are often the despair of those who would like to grow it well.—T. A. HYD., *Avonack, S. Devon*.

TWO BLUE ANNUALS.

IN William Robinson's "English Flower Garden," which I should not criticise because the talented author presented me with my copy many long years ago, the *Phacelias* are described as "Californian hardy annuals: none of the cultivated kinds very important." *Phacelia campanularia* was introduced in 1852, and the first edition of Mr. Robinson's work was published in 1857, and it is possible this particular *Phacelia* would not be widely known. I consider it the brightest and best of all hardy blue annuals. The shade is pure ultramarine ("Repertoire de Couleurs," 213, 1); the pure white anthers are an added attraction in the early stage of the flower. Sown

in the open in early April and thinned to 4ins. apart or even 6ins., it will flower during the whole of June and July and longer in the North.

In August of last year when spending a holiday at Cruden Bay, Aberdeenshire, I formed a higher opinion than I previously held of *Nemophila insignis*. On light soil in the pure northern air nothing was prettier in the gardens than this *Nemophila*. I know it is a common thing and was largely sold in penny packets before the war—two-pence now, please—but many common things are beautiful. The colour is the brightest sky blue with white centre, but the general effect is blue. It can be sown either in autumn or spring and ought also to be well thinned out. It is simply ruining annuals to sow them, as is so often done, like Mustard and Cress and leave them unthinned. I have an annual border at present 25yds. long with seventy to eighty varieties in it, and it is a continuous interest and pleasure.—
W. CUMBERSON.

THE BOUGAINVILLEA.

ONE reads so often that *Bougainvillea glabra* should be hard pruned in the same way as a Grape Vine that I am enclosing a photograph I have taken of a plant growing in a small tub



AN UNPRUNED BOUGAINVILLEA.

which has been left quite unpruned. This shows the great mass of flower and beautifully coloured bracts given by the small side growths. It stands on the back stage of a greenhouse and covers a space of about 15ft. by 4ft. It is used to cover the wall and is not trained on the roof. For many weeks it is a very fine sight and the admiration of all who see it. In other respects it is treated as usual—dry during the winter months and an abundance of water through the summer. Seeing how easy and accommodating it is, and how little it is troubled with insect pests, one wonders why it is not used more freely for covering walls, roofs and pillars in conservatories and greenhouses where but little heat is given. I am told by those who have spent many years in the Argentine that it is a great favourite there and much used for training on houses. It will cover a very large space and is never pruned. Its popular name there is Santa Rita. As the winter there is dry and

there is a heavy rainfall in summer, the conditions coincide with those we give them.—H. C. W.

THE SKUNK CABBAGE.

I ALSO have been interested in the references to the "Skunk Cabbage" of British Columbia. I brought some back with me, and then further roots were sent me in 1913. All have grown successfully and without any "nursing" right from the first and are thoroughly established by the bank of a pond, some in the water, some by its side, in Sussex. (I abstain from mentioning the locality: enthusiasts and others are so fond of trespassing and taking samples of uncommon plants.) They bloom well; each clump had four or five yellow spathes this spring, and very handsome they are, reflected in the water. The only damage they have had is from late frosts, which catch the tender leaves. I think the clumps are increasing—the drought last summer was a setback—and some must have seeded.

In THE GARDEN for May 6, 1911, there is notice of the Skunk Cabbage under the name *Lysichiton camtschatense*; in your issue of July 15, 1922, you call it *Symplocarpus foetidus*. Both are jaw-breaking, so better keep to the "Man-in-the-Street" nomenclature, Skunk Cabbage.

My garden also boasts of a fine British Columbia Dogwood (*Cornus Nuttali*) and a Vine Maple, both brought over as tiny plants and now about 15ft. high and blooming well.—D. E. B.

[*Lysichiton* and *Symplocarpus* are distinct plants, the latter being the Skunk Cabbage of North America.—ED.]

ROTATION OF CROPS.

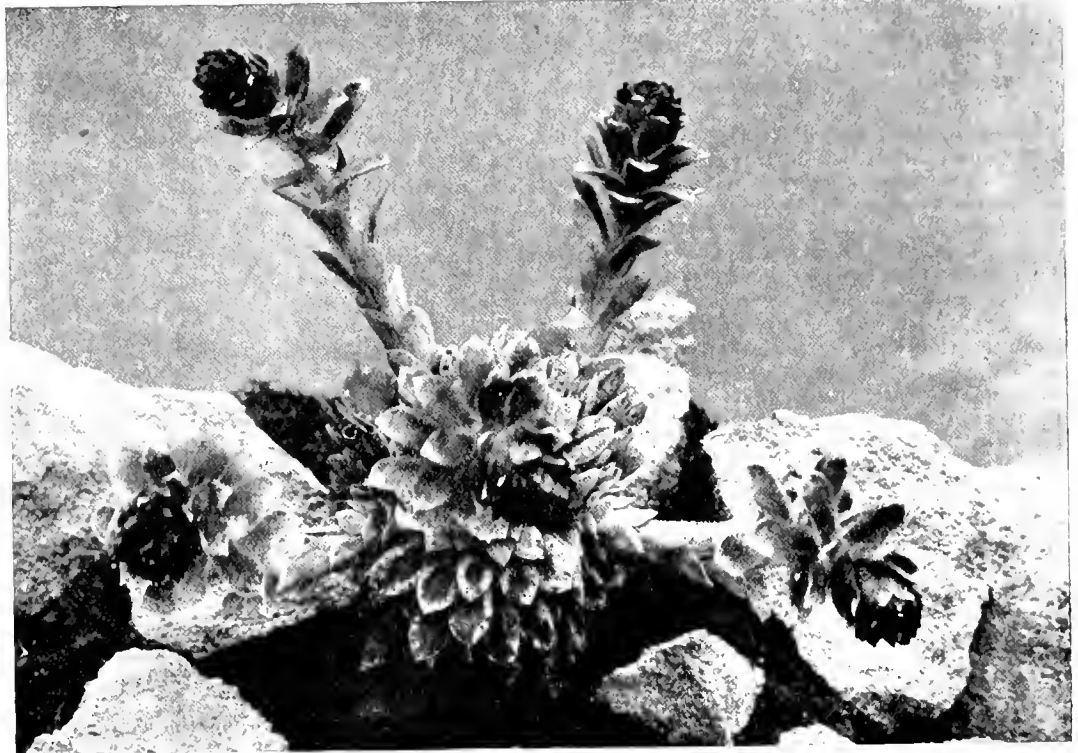
I HAVE no quarrel with rotations in the vegetable garden, but question their practical necessity. They are, however, so held up as a fetish that cultivators of small areas are driven to the utterly erroneous conclusion that failure is sure to result if one particular kind occupies the same site even a second season and that real success can be insured only under three yearly, four yearly and, according to some writers, five yearly rotations. In restricted areas divide the space into two approximately equal portions, making due

PLANTS FOR A SMALL MORAINÉ GARDEN

(Continued from page 363).

SAXIFRAGES.—Moraine conditions are indispensable for many of the Kabschias and other dwarf species and the innumerable hybrids that have been brought out in recent years, some of which are really valuable additions and others not worth a place along with the many beautiful alpine species.

regions in which they are located. Of all the Saxifrages tried only two have really been failures, and with those exceptions the Saxifrages mentioned in 1917 are still in existence, for the most part in the identical positions, very much increased in size or would have been if they had not in some cases been pulled back.



AMONG THE MOST INTERESTING OF SAXIFRAGES, *S. GRISEBACHII*.

Saxifrages are always interesting either in leaf or flower, and can be seen to great advantage on an island moraine. The upper portion of the moraine is almost fully occupied with Saxifrages, mostly the smaller ones. They commence to flower very frequently in January (January 1 this year), and there is a continuous succession up to the end of June, when *S. cochlearis* and its various hybrids are at their best. No protection is needed for the plants in the winter if the drainage is sharp, as it should be; but the earlier-flowering plants are better with glass protection over them when in flower, the weather at that period being so uncertain, and by this means the flowers are maintained in good condition for a considerable period, which is especially desirable to some of us who only have an opportunity when days are so short of seeing them at the week-end. The plants are usually mulched with crushed old mortar after flowering and the dead flowers cut off, which helps the plants if they have been flowering freely to regain their vitality. They also require water at the roots (not on top of the rosettes, especially if sunny) at this period, particularly if dry, as it frequently is in my district. A little shade is also requisite for a small proportion of the species. This can be obtained by placing a small rock alongside to keep the direct sun's rays off for a part of the day, conditions many of them have in their native habitats, where the hot sun may only be on them for two or three hours each day owing to the sharp contours that are characteristic of the mountainous

S. Bursariana magna. Quite one of the best of this group, which has flowered freely year after year until this spring, when it failed for the first time to do itself justice, probably due, to some extent, to the very dry summer of last year and to the plant having got rather large, the tufts having worked somewhat loose in the centre and should have been opened out and top-dressed. This has been done now, and it seems to be recovering. I had the same experience with *S. Paulinae*, quite one of the best of the yellow hybrids, in the previous year, but it has fully recovered and flowered fairly well this spring, being at its best about April 23. *S. B. magna* has flowers almost, if not quite, as large as *S. B. Gloria*, but on shorter reddish stems, which if exposed stand the rough weather much better than *S. B. Gloria*. A glorious form of the type, the first named is the latest of the three to come into flower. This year it was in flower on March 9. *S. B. Gloria* on March 1, and the type opened its first flowers on January 1, at which time the flower-buds of the others were well developed, but owing to the continuous period of low temperatures they practically remained dormant for weeks.

S. casia.—This desirable tiny grey-rosetted species has died out with me on two occasions, never lasting more than two seasons. I hope to give it another trial, and will see if protection from winter rains and freedom from lime, which it possibly resents, will prove satisfactory. A very near relative and quite as pretty, *S. diapienoides*, has proved quite at home over a period

allowance for the few essential permanent crops. On one section put the Potatoes and Onions, which might well be treated as permanent except in the case of a bad attack of mildew, and on the remaining moiety all other crops; reverse the positions each year and the old-fashioned simple rotation is achieved, with imperfections, of course, but nevertheless satisfactory for general usage. The one disadvantage of non-rotation is that the value of unappropriated food elements is not always secured and the system would, obviously, fail wholly where shallow soil working was practised. I incline to the view that Miss Price-Davies (page 346) is in error or mis-states her point when she says that in "wet weather . . . the nourishment of the plant would then come from above and from its immediate surroundings." Is it not true that imbibition by the root hairs of the elements of plant food occurs only when the moisture is ascending and not when it is descending? Surely save in rare torrential rainfalls there is always some capillarity? If the fact is as suggested by your correspondent, plants would continue to feed in a water-logged medium; whereas, owing to the root hairs perishing, they starve amid plenty, precisely as happens in a quite dry soil. Draw and push hoes have had places in every garden in which I have worked for nearly half a century and while the latter has had its value it has not once entered into serious competition with the former; the trouble is that few amateurs manipulate the draw hoe with that smoothness which carries it slithering sweetly, rapidly and effectively through the soil as the professional does with inherited naturalness.

In my experience neither two years, nor three years, nor any more years is a sufficiently long interval in "club" localities. The disease may come in one year or in twenty years, but in the latter case the chances are that the spores will be mechanically borne and for this reason, if for no other, it cannot be prevented absolutely. I have had to contend with it in light Surrey land, where we earthed every plant up with good compost, packed firmly, and kept moist by watering as necessary, and freely confess that it is the worst garden enemy with which I have fought doughty battles, and, incidentally, generally lost.—W. H. LODGE.

YELLOW ASPHODEL.

THE old Yellow Asphodel, *Asphodeline lutea*, still frequently called *Asphodelus luteus*, is not by any means so common as it was at one time. It is generally met with in the form of a clump in a border with a few spikes of its yellow flowers standing well up to a height of 3ft. or so. The other day I came across a mass of plants upwards of a hundred in number, and although they were in somewhat formal array, they gave me an idea of what this *Asphodeline* might be when planted among masses of other plants in a wild garden. The plants were well grown and were upwards of 3ft. and nearer 4ft. high, and were well flowered. Stiff-looking as were the spikes, one can appreciate how such a mass would look set among other plants and how effective the yellow flowers would be amid greenery. I have not found it a free plant in poor soil, but in a good fertile loam it is much more satisfactory.—S. A.

of years and flowered beautifully in early May. Another very similar species, *S. Tommasiniana*, which I have had three or four years, keeps quite healthy, but has never flowered yet.

S. Burnata.—This natural hybrid, which has *S. cochlearis* as one of its parents, has very beautiful delicate sprays of *S. cochlearis*-like flowers, but on a much larger scale; it has flowered profusely this season and being one of the latest Saxifrages to flower is just going over, at the end of June. Given a position on the outside, when its pendulous flower sprays can be thrown clear of the side, it will show its delicate beauty to perfection.

S. Faldonside.—Still one of the best of the yellow-flowering *Kabschias*, with large sized, short stemmed citron-coloured flowers. While I still have the original stock, this is due to my taking off a portion of the original plant, which died out, which it seems to have the habit of doing and usually unexpectedly. It has not flowered for the last two years and this may be due to the flowers being frosted when in bud two winters ago and the resultant check.

S. Grisebachii.—This species and *S. cœsia* already mentioned, are the only real failures that I have had out of a large number of species and hybrids that have found a place among my Saxifrages. Apparently a satisfactory position has not been found for it yet as it is a plant that should prove amenable to the conditions provided; one of the difficulties has been to prevent it from being loosened out in the winter months without using special protection. It is much the finest of the "Engleri" Saxifrages and its best forms are extremely interesting, with its crozier-like red stem which gradually unfolds itself and red flowers.

S. Petraschii is still quite happy with its white crinkled blooms of good size and substance and, following after the *S. Burserianas*, is quite among the best of the group. *S. Salomoni*, quite attractive and easy, with its paper-white flowers on reddish stems, has the cushion grey and compact. When first planted it was somewhat shy in flowering, but recently it has flowered exceptionally well. The flower stems are somewhat long and delicate, and it is likely to suffer damage from the stormy weather that very frequently happens when it is in flower, usually about March. *S. Irvingii*, another hybrid with *Burseriana* as one of its parents, has been raised since Mr. Farrer's list was published, otherwise it could hardly have been left out of the select "Fifty"; it has very compact grey spiny foliage, from which are thrown up on short stems delicate rose-tinted flowers, deeper at the base of the petals; it always flowers very freely, in fact the cushions usually are absolutely covered with the delicate rosy pink flushed flowers. *S. lilacina*, with its hard, very compact tiny green rosettes, has slowly increased until it is now quite a nice sized plant, which in recent years has given bountifully of its somewhat uncommon rosy lilac flowers. This is a Himalayan species and seems best planted in a position shaded from the sun for a good part of the day and in one that ensures somewhat more moisture than is usually allowed.

S. Boryi.—This has increased considerably and to me seems to be very close to *S. margnata*, with small green silvery-tipped rosettes and its clusters of beautifully white, good sized flowers carried well on a sturdy stem and is quite one of the most satisfactory of the Saxifrages. It usually flowers in early April, about a month later than *Burseriana*, and lasts for quite a good time. *S. Haagi*, with hard green, very compact rosettes, very similar to *S. sancta* in many respects and quite as easy, but the deep yellow flowers have much larger petals, which are carried on sturdy stems and the flowers resist bad weather much better than many species that flower about the same period. *S. apiculata*, with its primrose

yellow flowers, is still quite one of the best and easiest, and the white form of *apiculata* is equally good; both usually flowering very freely, which is not so usual with the *S. Elizabethæ* section. *S. Boydii alba* is a good early-flowering plant; *S. coriophylla*, which is out when *S. Burseriana* is well over and *S. scardica*, usually later still, are worth growing, all helping to lengthen the flowering period.

S. aretioides.—This compact Pyrenean Saxifraga, with its deep bright yellow, short stemmed flowers, is one of the latest to come into flower. My plant was taken out of a friend's garden when on its "last legs," only one cushion apparently having life in it, and planted on the moraine, where it slowly recovered and has grown into quite a nice plant.

S. S. cochlearis and *cochlearis minor*, the latter with the pleasant grey rosettes much smaller in fully exposed positions, give generously of their delightful flowers year by year. Of the Engleri section, *S. Stribnyri* makes rosettes fairly freely, but it has not flowered for some years. *S. Frederici-Augusti* failed to flower this spring, although it has flowered in previous seasons.

S. Bertoloni.—This hybrid has flowered freely both this year and last. *S. media*, the Pyrenean red-flowered species has just been planted. While the above are all interesting, none of them is nearly as fine as *S. Grisebachii*, before mentioned. The moraine is the most suitable position for the tiny silver-edged *S. Aizoon baldensis*, with its pretty flowers; some of the better *S. Aizoon* varieties find a place and are desirable for lengthening the Saxifrage flowering period. Among the best are *S. Aizoon rosea*, *S. A. lutea*, *S. A. pectinata*, etc. The very fine hybrid "Dr. Ramsay" (*longifolia* × *cochlearis*), finds a place, with its interesting rosettes and beautiful flower spikes, as does also *S. Kolentiana* (possibly *cartilaginea*), an Asia Minor plant with long narrow pointed leaved rosettes and pinkish flower spikes.

S. retusa.—This minute running oppositifolia-like plant, which has been planted for some years, flowered for the first time this season, the deep ruby red flowers being distinctly pretty.

T. ASHTON LOFTHOUSE

To be continued.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Summer-sown Cabbage.—The sowing of Cabbage to yield produce for spring and early summer is an important point where the supply of kitchen vegetables is on an extensive scale. The actual date of sowing may vary in some districts, but I do not think a few days either way will make much difference. A point I think of more importance is the selection of suitable varieties, such as Flower of Spring, etc. Two separate sowings should be made, and the first one should be in by the early days of August, followed by another one about the middle of the month.

Vegetable Seeds.—The clearing of early vegetables, such as Peas and Potatoes, will provide a suitable piece of ground for sowing quickly-maturing varieties of several vegetables which will come in very useful during autumn. Where the soil is cold and retentive, only a partial measure of success must be expected. Among other kinds, mention may be made of Peas, Spinach, Carrot, Beet and French Beans, choosing a warm spot for the latter where covering can be given later if necessary. If Cabbage seed is sown thinly and not transplanted it is possible to have plants with nice young hearts during November and December.

Winter Greens.—Kale, Savoy or other kinds should be looked over and have all deficiencies made good and additional plantings made where necessary.

Early Potatoes may be lifted even though the tops have not died down and will keep well if care is taken not to damage the skins. If any of the tubers are required for seed purposes they should be left outside to ripen a little before being placed in their storage quarters.

The Flower Garden.

Perennial Lobelias, such as *L. cardinalis*, require re-stocking to some extent most seasons, and the present is a suitable time to sow seeds for this purpose. Sow in pans or boxes filled with sandy soil, and place in a cold frame for germination. When the seedlings are strong enough prick out in boxes or in a shallow frame, shading from bright sunshine until established. Given a little attention, nice plants will be available for another season. The wintering of the plants may be done where grown, remembering that dampness is the greatest enemy.

Hydrangeas.—To maintain the stock of plants necessary for vases or tubs it is advisable to have a continuous supply of healthy young plants coming along. August is the proper time for securing cuttings to strike and grow on for this purpose. The partly ripened shoots may either be placed singly in small pots or about three may be put round the sides of a large 60 sized pot. Treated thus and grown on undisturbed it is soon possible to have nice bushy plants. A

slight bottom heat will give a quicker "strike," but later the plants should have cold frame treatment with plenty of light and air.

Antirrhinums.—To provide a stock of plants for flowering early next summer the seed must be sown during August, and for preference not later than the middle of the month. Sow thinly in shallow boxes or a cold frame, and prick the seedlings out as soon as ready to about 4ins. apart. This may either be in cold frames or on a fairly warm, well drained border where some protection may be given when necessary. The plant's greatest enemy during the winter months is dampness.

Fruit Under Glass.

Early Vines.—As soon as a clearance of the fruit from the plants is made steps should be taken at once to ascertain the condition of the borders, and if necessary a thorough watering be given. Should the crop have been a heavy one, or if the Vines are at all weak, manure water should be used. Keep all lateral growths cut off, and concentrate all the plant's energies upon the ripening up of the wood by airing the house freely day and night. If red spider is present it may be checked by syringing well with an insecticide, and a few good drenchings of water through a hose.

Pot Trees.—Trees in orchard houses or elsewhere, carrying heavy crops of Apples, Pears, etc., should receive regular assistance with manure water until the ripening period is apparent. Unless suitable supports in the way of nets are in use for the fruits, the latter must be securely fastened on with strong, broad raffia.

The Hardy Fruit Garden.

Morello Cherries.—It is not too late to help these with supplies of water if thought necessary, but probably other varieties not yet gathered had better be omitted, as it is now too late to do so with safety, owing to danger of the fruits splitting. Give the trees cleared of their crops a good cleansing if necessary, and cut away growth not required.

H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Lettuce.—Make a larger sowing than usual at this time for autumn use, choosing a convenient border for the purpose. Sow in lines 1ft. apart, thinning out to 4ins. apart in the rows. Lettuce are generally more satisfactory if sown where they are to remain, and if accorded considerate treatment will produce crisp and tender plants of good size.

Spring Cabbage.—The second and in many gardens the most important sowing of spring Cabbage should now be made. Choose an open

position, and sow thinly in rows 1ft. apart so that short, sturdy growth may result. Sutton's Flower of Spring is undoubtedly one of the most suitable varieties for sowing now, as it possesses all the qualities that go to make a good spring Cabbage, being very hardy, heading quickly, and not being so liable to "bolt" as some sorts. It has few outer leaves and proves of excellent quality when cooked.

General Work.—The present is one of the busiest seasons of the year in the kitchen garden, as crops of various kinds are going over, and where time and circumstances permit, the ground should be cleared and utilised for catch crops, such as late sowings of Spinach, stump-rooted Carrots, Globe Beet, etc. In regard to late Peas that have made extra strong growth, these should receive additional support, and thus save the crop from damage by the autumn gales. Keep all ground free from weeds and well hoed when the weather is suitable, resorting to hand-weeding when the weather is showery.

The Hardy Fruit Garden.

New Plantations of Strawberries.—Where it is desirable to lay down new beds of Strawberries with expectations of securing fruit from the young plants next season, no time should be lost in having the work carried through. It is essential that good strong runners be secured and that the ground they are to occupy should be in good heart. The Strawberry likes a deep soil and will revel in a part that has been deeply dug and well manured for earlier crops. Set the runners out in lines 2½ft. apart and 15ins. apart in the rows. Strong-growing sorts may be allowed 3ft. between the rows and 15ins. between the plants, but for most varieties the first mentioned distance will be found suitable. After root action commences the ground should be kept well hoed and every encouragement given the plants to establish themselves before winter.

Fruit Under Glass.

Peaches.—In early houses where the fruit has been gathered all unnecessary wood should now be cut away and the trees subjected to a thorough washing with the garden engine or syringe. Where traces of red spider are noticeable, means should be taken at once to eradicate the pest. Use one of the many reliable preparations sold for the purpose, taking care to see that it is applied to every portion of wood and foliage. Allow abundance of air both day and night, and thus ensure short-jointed, healthy fruiting wood. Examine the border and see that the roots do not suffer from lack of moisture.

The Flower Garden.

Pinks.—Cuttings of these fragrant and free-flowering plants should be inserted without delay. Utilise a cold frame for the purpose, and dibble the cuttings firmly into a mixture of leaf-mould and sharp sand. Pinks are greatly favoured for planting on the margins of borders, the variety Mrs. Sinkins being singularly effective when planted in conjunction with *Nepeta Mussini*.

The Rock Garden.—Cuttings of such alpine plants as *Dianthus*, *Pboxes*, *Androsaces*, *Saponarias*, *Drabas*, *Saxifragas*, *Linarias* and numerous others should now be got in, and in this way the stock for replenishing or augmenting existing groups next year will be kept up.

Seedling Pansies.—Seed of this old favourite may be sown now on a light border in the open, or germinated in a cold frame and planted out in nursery lines, where they may remain until transferred to their flowering quarters. Treated thus they will produce a mass of bloom during spring and early summer.

JAMES MCGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),
Cobham, Kilmarnock.

FORTHCOMING EVENTS.

August 1.—Royal Caledonian Horticultural Society's Meeting.

August 2.—National Viola and Pansy Society's Show.

August 3.—Taunton Deane Horticultural Society's Annual Show.

August 4.—Bradford Hospital and Convalescent Fund's Show (two days).

August 5.—Auchencairn Horticultural Society's Show.

Beauties and Beasts at Cambridge

THOSE whose knowledge of Cambridge is only that of a bird of passage know that there are always beauties in the gardens of the splendid colleges and private houses and that beasts are numerous on market days, but the richness to the point of embarrassment of both have never been equal on any one occasion to that concentrated at the Royal Show. THE GARDEN has nothing akin to the beauties of the beasts (if it had, a more knowledgeable pen than the present one would be needed to describe them), but it is rather, mother, brother and sister of many of the finest gardens in the land and is, therefore, in intimate relationship to the beauties of the flowers, and it is to these that attention will be drawn briefly.

The two marquees of noble proportions were disposed to form a gigantic capital T, the one entrance to which was approached between fruit trees from Laxtons and Carnations from Engelmann planted in beds, doubtless to create the imperative good first impression; anyway, that is what they did. Within was a blaze of colour, relieved from the positively plethoric by Pulham's delightful little rockery, Ellison's cool Ferns and Palms and Miss Thompson's quaint and varied Cactaceous plants. Repose to the eye, with, perhaps, a whetting of the palate, came, too, in admirably grown fruit trees in pots contributed by Sir Carl Meyer, the King's Acre Nurseries, Limited, Jas. Vert and Sons and W. Seabrook and Sons; luscious-looking Strawberries from Laxton's, with Melons the equals of which are much too rarely seen at shows in these days; and superb vegetables, arranged with artistic skill to make a harmonious group, amid beautiful Sweet Peas, from Sutton and Sons.

Rosarians represented included the Rev. J. H. Pemberton, who staged several varieties of his own raising; Laxton Brothers, shewing one sort only, the exquisite single Pink Delight; R. Harkness and Co., who staged a varied group; Wood and Ingram, who had also numerous varieties; A. J. and A. Allen, who had many grand flowers; J. Burrell and Co., who worthily upheld the town of Cambridge; B. R. Cant and Co., who were in grand form; Daniels Brothers, who added herbaceous flowers to their Roses; A. Dickson and Sons and A. Edwards. Superb Sweet Peas came from A. Ireland and Hitchcock, Sutton and Son, Dobbe and Co., E. Webb and Son, R. Bolton and Alex. Dickson and Sons.

Carnations, Border, Tree and Malmaison, were staged by Allwood Brothers (who, of course, remembered to bring some Allwood Pink to cheer up their relatives), K. Luxford and Co. and H. Lakeman. Among those who sent hardy flowers or plants or both were R. H. Bath, Limited, Bakers, the Chalkhill Nurseries, John Forbes, Limited, R. C. Notcutt and R. Wallace and Co. W. Artindale and Son brought a pleasant change in the form of a small collection of fine Violas, while I. House and Son shewed a collection of flowers of perennial Scabiouses.

There were a few competitive classes, which although they did not, speaking generally, bring as many exhibitors as might have been expected, were magnificent in respect of the quality throughout and of splendid arrangement in most instances. J. Cypher and Sons and W. A. Holmes competed in the group of miscellaneous plants and were placed as named. In each instance the plants were the same and were disposed in precisely the manner with which visitors to the leading provincial shows have become familiar with during the past few years, and the thought

occurs that it is time that a material change of design was made. J. Cypher and Sons led with a collection of Orchids, excellent in all respects. Blackmore and Langdon were not assailed in the classes for *Delphiniums* and tuberous-rooted *Begonias*, and consequently annexed the premier award in each case. For a collection of hardy perennial plants and cut blooms the order of merit was Artindale and Son, Harkness and Co. and G. Gibson and Co. For a collection of cut sprays of Tree Carnations C. Engelmann assumed the lead over S. Low and Co., while in a similar class for Border varieties H. Lakeman was in the premier position. Collections of Sweet Peas were above the average of merit, and the prizes went to R. Bolton, E. W. King and Co. and J. Stevenson in the order given. The last and probably the finest class of all was for a collection of Roses, and the prizes were taken by T. Robinson, A. J. and A. Allen and W. and J. Brown.

The final impression on leaving was that this was the finest horticultural show that the Royal Agricultural Society had had; that it was most admirably arranged for the convenience of the exhibitors and the comfort of the visiting public by Mr. Peter Blair; and that if it had been poor the steward, Sir Arthur Hazlerigg, Bart., would have made people think that it was fine by his geniality and prompt willingness to give assistance or advice. L.

A Sussex Flower Show

HAYWARDS HEATH is blessed with a particularly good railway connexion to many residential districts, so that fine trade exhibits may usually be found there. This year's Show, held on July 19, was no exception, exhibitors coming from as far afield as Wolverhampton. Messrs. Charlesworth won the President's Cup for the best trade exhibit for the third year in succession. It now becomes their property. Noteworthy Orchids in this exhibit included *Cattleya Dupresiana*, *C. Hesta*, *Odontoglossum Xanthina* (with bright lemon spots on a primrose ground, the nearest approach to yellow in this section), *Coelogyne burfordense* (*C. pandurata* × *C. aspera*), *Odontonia brugensis*, *Erides Ballantineanum*, *Laelo-Cattleya Phoebe magnifica*, the bright yellow sepalled *Lælia tenebrosa* Walton Grange Variety and the Reed-like Swamp Orchid, *Sobralia Colmanii*.

Perpetual Carnations were worthily shown by Messrs. Allwood. Varieties specially noteworthy included the gallant scarlet Edward Allwood, Jessie Allwood, the quaint rose and helio Eastern Maid, Wivelsheld Beauty and the Perpetual Malmaison Mrs. C. F. Raphael. Among a considerable display of Allwoodii the soft pink Maud was much admired.

A particularly fine exhibit of Sweet Peas came from Messrs. Sutton, all grown in their Reading trial ground and proving conclusively that with proper care and cultivation these flowers can be grown up to exhibition standard on almost any soil found in Britain, for the soil at Reading is naturally shallow, light and hungry. Particularly fine were their masses of Tangerine Sensation (a fine scarlet), Doris Usher, Barbara and Sutton's Black-seeded Cream. A smaller exhibit, but with wonderful flowers particularly bright and fresh in colour, was set up by Mr. H. T. Dixon, of Polegate. Rather invidious to select the best here but personal taste suggested Hebe, Fantasy, Annie Ireland, Jean Ireland, Giant Attraction and the nice crimson Charity.

Colonel S. R. Clarke had an attractive exhibit of uncommon shrubs, with plants of the glorious

new *Anemone glaucophylla*. Messrs. Cheals had alpine and herbaceous plants, Dahlias and, in the open air, some well shaped and clipped topiary. Messrs. James Box had herbaceous plants, including many Phloxes, *Eremurus Bungei*, *Lilium Henryi* and *Romneya*.

The rock and water garden carried out by Mr. E. Scaplehorn, of Lindfield, was quite ambitious. *Primula Littouiana* was an attraction in this exhibit. It is surprising how many keen amateurs still seem not to know it. In a good bank of herbaceous plants, that best of Rudbeckias, *R. maxima*, was notable, while the Phloxes also were good.

Mr. Frank Woollard, of Brighton, had a bright display of Roses and quite a collection of small fruits. Messrs. Bunyard brought from Maidstone some good Roses, including the popular Golden Emblem; also herbaceous plants in some variety, including *Liliums Auratum* and *testaceum*.

In the competitive classes popular interest always largely focusses at this Show upon the table decoration class, for which Messrs. Charlesworth offer a very handsome cup additional to the prize money. These were judged by Mr. R. F. Felton, the well known Hanover Square florist, who afterwards explained the merits and demerits of the different arrangements to the competitors. Mrs. A. Swann, of Warminglid, was placed first with an arrangement of deep salmony apricot Carnations, *Croton* foliage and the variegated swords of *Glyceria aquatica* fol. var. The second prize winner, Mrs. A. E. Sales, showed what could be achieved with sprays of Dorothy Dennison Rose arranged with its own foliage. The premier award in the decorated fruit table class went to Mr. C. T. Allen, Warminglid (gardener, F. L. Tilling). The various kinds were good throughout, but there was nothing of outstanding excellence. Mr. F. H. Ansell, of Haywards

Heath, was first with a collection of hardy flowers, but the arrangement and setting up left much to be desired. Much better was the first prize exhibit in the class for twelve bunches of herbaceous flowers shewn by Mr. W. S. Poole, also of Hayward's Heath (gardener, J. W. Penfold). His best vases were probably *Lilium candidum*, *Phlox Antonin Mercie*, *Pentstemon George Home*, *Galega Her Majesty*, *Pentstemon barbatus* and *Salvia virgata*.

Fruit and vegetable classes throughout the Show were well filled. Other interesting classes included arrangements of hardy flowers in baskets and, for the school children, named collections of wild flowers.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

LAVENDER UNSATISFACTORY ("Shadow").—This is one of the troubles, vaguely classed as "Wilts," of which the cause is unknown, but in this case it is very probable that it is the result of very trying conditions of temperature. The colour of the damaged tissue is due to the collection of a blue pigment in the epidermal cells. The nodes survive longer because they are more fleshy and also because they can, to some extent, draw on the supplies of water in the leaves. This trouble is not likely to constantly recur.

LILIUM CROCEUM UNSATISFACTORY (K. D.).—The Lilies seem to be affected with the well known Lily disease, though *Lilium croceum* is not often so affected. It is probably placed where cold winds and spring frosts reach it, and this has weakened it and laid it open to the attacks of the fungus *Botrytis parasitica* which is the cause of this disease. Remove diseased plants and destroy them, also collect and burn diseased foliage. It is advisable not to plant fresh stock in infected beds.

NAME OF PLANTS.—J. M. C.—Rose Lady Pirie. —B. B. P.—*Ulmus major*. —M. S. S.—Banbury. —*Phacelia tanacetifolia*. —J. R.—1, *Dipsacus sylvestris*, "Wild Teasel". 2, *Amorpha fruticosa* (shrub), "False Indigo."

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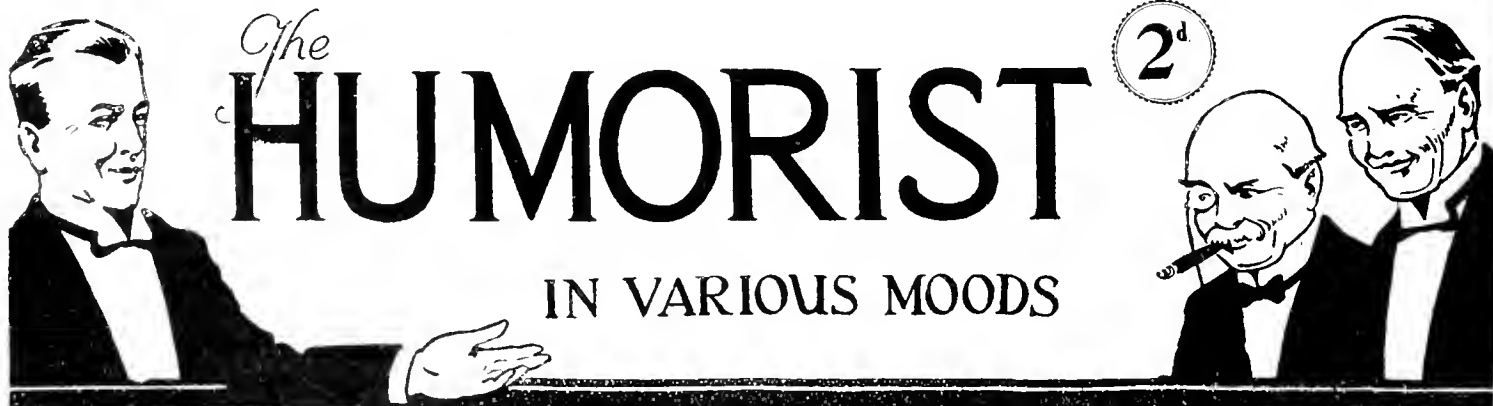
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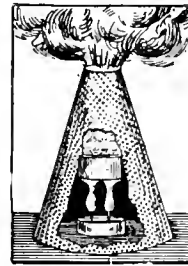
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LILIES FOR GARDEN AND WOODLAND

Everyone admires Lilies. Popularly supposed to be of difficult culture, many species are quite as easy to grow as Stocks or Asters for example.

JUST at this season, when so many Lilies blow, it may be well briefly to consider the requirements of some of the commoner species. Where provided with good rich soil and partial shade, conditions which they like exceedingly, so that the rich soil be not gross, the beautiful Madonna Lily, *Lilium candidum*, will yet be in flower. A very few weeks, however, will suffice to ripen off the bulbs, and before the month is out the planting season for this species will be upon us. The early ripening of *L. candidum* is somewhat of a nuisance, since it may not be planted at the season when herbaceous borders are remade. The nuisance is, however, mitigated by the fact that, once established, it is best left undisturbed for a number of years, and may be left *in situ* during two or three successive remakings and replantings of the border.

Most Lilies in the climate of Southern England like some shade or screen from the heat of the midday sun, a possible exception being the Tiger Lily, *L. tigrinum*. Shade is more especially necessary, however, for the stem-rooting Lilies, such as *L. auratum*, *L. speciosum* and *L. Henryi*, which do best planted where their stems can rise through light shade, between Rhododendrons or Azaleas, for instance, which are especially suitable in that they can always be lifted and replanted further apart when they become too close together to give the Lilies breathing room.

All the *Auratum* Lilies are beautiful, but the most vigorous grower is probably *L. a. platyphyllum* and the most striking *L. a. rubro-vittatum* with a deep crimson band to each petal. Of the varieties of *L. speciosum*—or *laucifolium* as it is often called in catalogues—the best are album

Krætzeri, a magnificent white; *Melpomene* and *magnificum*, two fine crimson spotted sorts; and *roseum*, less handsome, but plentiful—consequently cheap—and a vigorous grower.

Similar in shape to the *speciosum* group is the rich orange *L. Henryi*, which is, however, of bigger habit and more readily acclimatised. Indeed, it will succeed quite well in any good herbaceous-

border. The beautiful salmon buff hybrid Nankeen Lily, *L. testaceum*, is another excellent Lily for the herbaceous border, where its dignified carriage and uncommon colouring make it unique. It is equally valuable for thin woodland planting, which, indeed, suits practically every species.

Lilies like a soil which, while never suffering from want of moisture, never becomes in the least waterlogged. An exception is the Panther Lily, *L. pardalinum*, a handsome species attaining under favourable conditions giant stature—7ft. to 8ft.—with orange flowers like a giant "Turn-again-gentleman," more or less spotted with black. This fine Lily has recently been largely used for hybridisation, notably by Messrs. Amos Perry of Enfield, and some very fine hybrids, all featuring in greater or less degree the parent, have recently been exhibited.

No garden Lily is better known, probably, than the Tiger Lily, yet even this is not always grown as well as it should be. Some light-growing screen to shade its roots from the scorching rays of mid-summer sun is a great help. Many Lilies increase not only by offsets or from seed, but by means of bulbules formed up the stem, one in the axil of each leaf and which often emit roots even while growing on the parent plant. With many Lilies this is a phenomenon more frequent in some seasons than in others and partial at all times, but with the Tiger Lilies it may be relied upon as a constant happening, and these bulbules if removed and planted in shallow trenches in clean soil not devoid of humus will flower in two or at most three seasons. The best



MOST VIGOROUS OF AURATUM LILIES. *L. A. PLATYPHYLLUM.*
Admirable for thin woodland planting.



THE BEAUTIFUL NEW HYBRID MARTAGON LILY, MRS. BACKHOUSE.

THE MADONNA LILY, *L. CANDIDUM*.

single forms of the Tiger Lily are called *L. t. Fortunei* and *L. t. splendens* respectively. *Lilium tigrinum flore pleno* is the beautiful double form much admired by many who have no love for double-flowered forms in general.

Among Lilies unsuitable for the herbaceous border but admirable in thin woodland planting protected in some way from draughts are *L. giganteum*, which some seasons does well in the wild garden at Wisley, *L. regale*, the related *L. sulphureum* and the hybrid *L. sulphurgale*. The "Turn-again-gentlemen," as villagers often call the fragrant Turk's Cap Lily, *L. Martagon*, also shews to greatest advantage in semi-shade, but it is an accommodating plant, and is often seen to grow and to increase in the herbaceous border. The beautiful pure white form is especially attractive. Somewhat similar in appearance but larger in blossom and more vivid in colouring are the Scarlet Turk's Cap, *L. chalcedonicum*, and the golden Martagon, *L. Hansonii*. These choice Lilies also like shade from midday sun.

That invaluable forcing Lily, *L. longiflorum*, is of little use outdoors, but an alpine form of the little-known and tender *Lilium philippinense*, *L. p. formosanum*, bids fair to be an excellent and hardy white trumpet Lily. Bulbs received this spring under this name from India which had unfortunately "sweated" somewhat in transit, have not so far shown up, but as it comes readily and grows rapidly from seed in this country, it should not long remain scarce.

Lilium croceum, the beautiful Orange Lily of cottage gardens, which will flourish in any well tilled border or even under thin grass in old orchards, a situation in which it is seen to perfection, has, for some unexplained reason, become scarce of late years.

Beautiful among low-growing American plants in thin woodland is the fragrant *Lilium rubellum*, a dwarf Lily which bears rosy pink blossoms towards the end of May.

One of the most beautiful of Lilies of the herbaceous border is saddled with a frightful name—*L. monadelphum Szovitzianum*. This was well illustrated in *THE GARDEN*, October 15, 1921, page 513. In colour it is straw yellow, spotted black.

Lilium Thunbergianum, also known as *elegans*, is a very dwarf species which, like *L. croceum*, holds its cup-shaped blossoms erect. *Sanguineum* is the form most commonly seen; its rather brick-red flowers are spotted black, but there are others yet more beautiful. *Van Houttei* has larger flowers of a rich crimson hue; *atrosanguineum* deep red blooms, black spotted; *alutaceum*, bright apricot flowers, also black spotted; and the still rare Orange Queen has large bright orange flowers, usually, on established bulbs, in threes.

Another free-flowering, easy and early species is *L. umbellatum*, which attains a height of 2ft. or so. The commoner forms of this variable species are *grandiflorum*, *Sappho*, *erectum* and *incomparabile*, the first two light orange, while the last-named is a good rich crimson. *Erectum* has reddish flowers, flushed orange; and the later-flowering and admirable *Diadem*, bright crimson blossoms with a central yellow stripe to each petal, the finest and, alas! the dearest of the group.

Like a small Turk's Cap, *Lilium pyrenaicum* is yet another early-flowering Lily with clear yellow flowers, spotted black. Strongly scented, it is of the easiest culture.

The general requirements of this noble family of plants may be briefly summarised as follows: Partial shade, good drainage, a sufficiency of moisture in the growing season (in the air as well as in the soil), shelter from cold draughts, soil with an abundance of humus but free from any undecomposed manurial matter, and clean porous material immediately beneath and around the bulbs. Moisture in the air is best obtained by surrounding vegetation which tends to retain the evaporation which always follows copious watering around the plants. Shelter from draughts is often difficult to arrange, but very necessary. In woodland Bamboos are often planted to provide this, and if encroaching varieties, such as *Arundinaria japonica* (*Bambusa Metaké*) are avoided, are excellent for the purpose.

Quite spent horse manure, peat and well rotted leafsoil are suitable ingredients for providing humus, and are also admirably suited to the American plants of various sorts, especially *Rhododendrons*, with which Lilies are most happily associated. The best medium with which to surround the bulbs to keep them free from possibly harmful bacteria in the soil is coarse silver sand. Dusting the bulbs before planting with flowers of sulphur is supposed to assist in this, and is often done, but the writer would rather express no decided opinion upon its efficacy.

Most Lilies are obtainable from about October, but imported bulbs of *auratum* and *speciosum* seldom arrive before January. The shorter the period that the bulbs remain out of the ground the better for their ultimate well-being. For this reason the first arrivals almost always do best. It is wise, then, to order early—as soon as the price lists come to hand, in fact—and to plant the bulbs immediately upon receipt.

NOTABLE HARDY GERANIUMS

For Border and Woodland.

THE Cranesbills have many good qualities, apart from their individual beauty, one of these being the habit common to the majority, of blossoming in full summer when border and rock garden are not so gay as they were, and another is their easy-going temperament and adaptability to all manner of soils and situations. Most of them are sun-lovers, delighting in a free, warm soil, but there are some which appreciate shade and a cooler medium. Those which produce seed, and few do not, are easily raised from outdoor sowings, and they are, as a race, almost immune from pests and disease.

Here, as the heading suggests, I shall confine my remarks to those of the larger Geraniums

are easy-doers almost anywhere, and they hybridise so freely that the garden will soon be peopled with their pretty offspring in various shades of soft, chalky pink, veined and plain. So vigorous are these seedlings in suitable soil that they will naturalise freely in the herbage of open woodland and maintain a succession of flowers from June to November.

G. anemonæfolium, a Madeiran, which comes into flower about midsummer, is one of the most remarkable and beautiful of its race. The broad, glossy and deeply divided leaves are borne on rigid stems that spring from the crown of a short, stout stem, and from the centre of this fan-palm arrangement rise the equally stiff flower-stalks. These are beautifully furred with iridescent hairs,

of shrubbery where it can come up and take care of itself year by year. Well grown specimens will go up to 2ft. high, and the branching stems and large leaves assume a brilliant blood red tint before the plant seeds and dies.

Of *G. sanguineum* one need say little. It is so splendid a thing in the midsummer rock garden, and on its own limestone cliffs, that it is known and admired by everyone, even by those whose perception of colour is such an uncomfortable possession that they must affect a wry face at the faint suggestion of blue which may possibly permeate the gorgeous crimson of the Bloody Cranesbill. There are, of course, several forms of *G. sanguineum*—local types—and if I am not much mistaken, the *G. nepalense* usually sent out by the trade is none other than one of these, and a very fine one, too. Then we have the admirable white sanguineum, much larger in growth than our native and doubtless an albino sport from a Continental form, albeit a first-rate plant that will make a loose mound 18ins. high and 30ins. across. The charming little *G. lancastriense* is another of the sanguineum clan, very dainty and prostrate, with flowers of a soft rose

Of *G. nodosum* of gardens there appears to be some doubt, both as to description and origin; but to me it is an almost prostrate species, much after the habit of *lancastriense*, but rather larger, with little and round, deeply cut, grey-green leaves and crimson-purple flowers about an inch across. At any rate, this planting is one that makes a very cheerful note of colour from June onwards for many weeks. It seeds freely and does not indulge in indiscriminate unions with other species.

By no means to be despised is a good specimen of another native, *G. phæum*, with very dark, claret coloured flowers about the size of a shilling. This will make a bold, many branched plant up to 2ft. in height, and its bright green leaves are not infrequently marked with sepia blotches at the base of each of the large indentations. One form I gathered has, in addition to these blotches, similar variegations in bright rose and cream, all three colours being sometimes on the same leaf. *Geranium phæum* is a first-rate plant for thin woodland, but it appears to like a cool root run and enjoys nothing better to grow in than a heap of builder's rubbish. Though a sombre colour, there is something peculiarly fascinating about this Cranesbill, so much so that it is getting rare as a wild plant in many localities. There are *phæums* with flowers of a paler hue verging into pink and one with reflexed petals, but the almost black, large-flowered type with blossoms opening perfectly flat is, to me, the most attractive.

For a warm, sunny corner there is no more lovely species than *G. Traversii*, the home of which is New Zealand. The prevailing impression one gets of this Geranium is a silvery softness, for not only is the green of the ample foliage glossed over with a delicate film of silk, but this effect seems also to suffuse and cool to a more tender pink the exquisite flowers. *G. Traversii* is in habit and in all its parts the acme of good taste—a little difficult, perhaps, on some soils, but one of which a stock from offsets may easily be raised and kept in a frame over winter.

G. pratense is a useful old plant for massing in open woodland or shrubbery, and some of its varieties, notably the clear blues and whites, in singles and doubles, are not to be despised at the back of one's borders during July and later. Another well known kind, for a place nearer the front is *G. grandiflorum*, which bears at the tips of its 12in. stems pairs of very large single flowers which are a really good blue in the evening light, or the half shade that it enjoys. Like the foregoing, this is one of the later bloomers and one



LOVELY SOFT PINK, GERANIUM LANCASTRIENSE.

grown in this garden, and in doing so leave to someone else the task of unravelling the mysteries and nomenclature of the remainder which crowd the pages of some books and catalogues in such bewildering array.

G. atlanticum may be given first place because it is, with us, generally the first to flower. This species, which hails from the Atlas Mountains, makes a dense carpet of finely-cut leaves with a close resemblance to those of some Anemone, and from this green setting rise the rft. flower-stems in April or May. The blossoms are about an inch across, of a deep violet with faint veins of red. Shortly after the blooming season is over most of the foliage dies away until autumn, when the new leaves appear. This has proved a "pernickety" plant in some situations and one that takes a considerable time to get established, but this difficulty, I rather think, would be less apparent if the moving were done as soon as the foliage dies away in summer. It seems to be perfectly hardy.

The fine rose of *G. Endressii* is usually the next to appear, this being followed by the more silvery and reticulated pink of *striatum*. Both of these

and they branch into several heads which produce at their tips pairs of flowers in a charming crimson-pink, satiny of texture and deepening to a lustrous ruby eye. A succession of these delightful flowers is kept up until autumn, when the plant begins to make new leaves, and these, pushed out of the crown-like fronds of male fern in spring, continue growing throughout the winter so long as the weather remains open. *G. anemonæfolium* seeds freely, and the little plants come up in all kinds of unexpected places. With us it prospers in thin woodland and many other situations, but it seems to enjoy a cool, yet well drained, soil, and shelter from the noonday sun is advisable. In windy situations the head is liable to be broken off, and though *G. anemonæfolium* will stand 15° to 20° of dry frost, it is liable to perish when melting snow suddenly freezes like it did last April.

The Madeiran Geranium is a true perennial and, allowing for family similarities, could hardly be more unlike *G. Loweii*, with which it has been confused by some. The latter is simply a much magnified Herb Robert, invariably biennial, and quite a pleasing plant for the woodland or border

that, although it increases by root division readily enough, is happiest when left quite alone in a mass. *G. grandiflorum* remains in flower for some weeks, which cannot be said of the rich violet-purple *G. ibericum*. This is, nevertheless, a rare old plant, and its copious and handsome foliage makes amends for a short flowering season by turning a brilliant colour in autumn.

The gorgeous *G. armenum*, which will grow to nearly 3ft. in height and cover a square yard or so with its many-branched stems in bold leaves and brilliant crimson flowers, is one of the most noteworthy of this handsome family. It must be admitted that there is a tinge of blue in the wonderful colour of the large flowers, especially as these are going off, but the shining jet of the eye and its radiating veins does more than remove the stigma of magenta which the ultra-sensitive would bestow upon this noble plant. *G. armenum* does not set seed here. It is increased by root

division and is the better for breaking up every three or four years.

With *G. Wallichianum* I must wind up my list. This is a very distinct, hardy species, a Himalayan, with an uncommon predilection for a cool, half-shaded corner where it has plenty of room to disport at will, among Ferns or other things, its long, trailing stems. *G. Wallichianum* is a variable plant in the colour of its large, flat, or saucer-shaped, blossoms, which are commonly a subdued rosy lilac centred with a bold zone of white. But the best form by a long way is Mr. E. C. Buxton's variety, in which the blossoms are a clear *Nemophila* blue and not at all unlike those of that pretty Californian. This species can be raised easily from seed sown in the open, and Mr. Buxton's blue comes remarkably true to colour; but to attain its full beauty this plant must have shade, at any rate from the midday sun.

North Wales.

A. T. JOHNSON.

THE ENGLISH PERGOLA

Its Design and Placing

It is usual nowadays to designate any partially covered way clothed with vegetation a pergola. Within this all-embracing term must be included the tunnel of "rustic" woodwork—horrible survival of the scrappy "kniek-knacky" ideas of a past generation—the iron-arched fruit pergola and the stately erection with Doric or Corinthian columns which

are obviously not intended to be smothered with creepers.

Of structures so elaborate as the last named there is no need here to speak, since the number of people in want of such is small and since the services of a qualified architect are obviously required to design them. Leaving the classic colonnade aside, flower pergola pillars may be

adequately constructed of stone, brick or wood. The material employed will depend to a considerable extent upon the architecture of the house with which they are to be associated, but in many cases the question of cost also will be important. A pergola constructed of wood and capable of withstanding wind and weather for a number of years will cost considerably less than one built of brick. Brickwork, moreover, is generally considerably cheaper than even the roughest masonry. Brick and stone have, of course, the advantage of practically absolute permanence.

Taken broadly, the pergola should be rather a link between architectural features than a feature in itself. Of two features connected one is usually the dwelling-house, the other may be a summer-house, a substantial seat, a rotunda giving a view of hill and valley, or an ornamental building of almost any sort. In the small garden or in grounds of rather less than medium size this will almost certainly be the case, but where space is ample the pergola may be a feature in itself, as when a semi-circular pergola forms an amphitheatre in a hillside or, backed by trees on slightly rising ground, is used to close a vista. Since the pergola is admirable to display climbing and Rambler Roses, it has become usual to introduce a pergola partially to bound the rose garden. The rose garden is hardly a recommendable feature to introduce in the immediate purlieus of the house, and it is correspondingly difficult to arrange a pergola in the desired position which shall have any justification as a connecting link. It may, in such case, be made more satisfactory as an independent feature by taking it round two adjacent sides of the rose garden. If the floor of such pergola can be arranged, without too great a sense of artificiality, at the height of one or two shallow (say 5in.) steps above the level of the rose garden, so much the better.

The "tunnel" pergola with both sides closely draped with vegetation is a justifiable expedient where a path has to be taken through a stretch of ground in which it is not feasible to provide other features of interest, but generally an erection entirely open between the columns on at least one side will be desirable. It will often happen that a pergola quite open between the columns on both sides may be improved by the addition of a narrow herbaceous border perhaps 4ft. wide on either side.

So much for the placing of the pergola! In its proportioning we are restricted in one direction by the fact that its height must be sufficient to allow comfortable walking when it is draped with climbers. This in practice means that it should be not less than 8ft. tall to the underside of the cross timbers. Another 6ins. is, indeed, desirable. It is, of course, possible to carry a brick or stone-piered pergola considerably higher than this minimum, but except in the case of very massive pillars (associated with a building on the grand



A SIMPLE WOODEN PERGOLA. WINTER ASPECT.

scale) it is not desirable so to do. Admitting then, as we must, that a pillar in stone about 8½ft. high and about 18ins. or 19ins. in diameter looks properly proportioned in a pergola, how are we to arrange our slender (6ins. by 6ins.) oak posts in a pergola the same height so that the

Whatever the material employed, it is important in a squared pergola—the arched fruit pergola is really a thing apart—that the timbers should project beyond the piers on either side to a suitable distance which will vary considerably according to the width and proportioning of the pergola

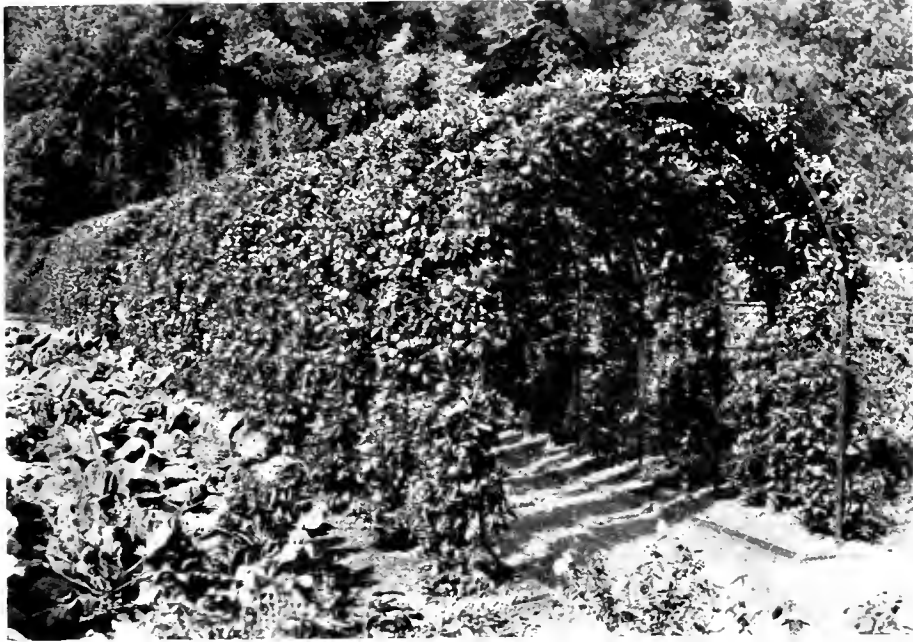
quite a different proposition, but providing the slope is not too severe, it may be made very beautiful and interesting. The main points to be borne in mind are:

(1) That as in all terracing, the general lie of the pergola floor (taken either altogether over or altogether under the separate flights of steps) should be concave, which, turned into practice, simply means that the flights of stairs should be longer and the level stretches be shorter at the upper end than at the lower.

(2) That to avoid the danger of pedestrians striking with their heads the cross-timbers, or rather to avoid all appearance of danger of such a happening, the flights of steps should be kept well back under the higher pillars. The appearance of additional height to the piers flanking these stairs, which would, of course, destroy the proportion, may be avoided by having the stairs somewhat less than the width of pergola, thus leaving the piers a base upon which to stand.

THE FRUIT PERGOLA.

The fruit pergola has a very real charm, and is at the same time eminently utilitarian. It is, therefore, a feature which might well be seen more frequently. The British, as a nation, are somewhat neglectful of the beauties of fruit trees in all forms, whether as more or less naturally grown or as trained to walls, fences or pergolas. Most fruit trees are worthy, from a purely decorative standpoint, of inclusion in the pleasure grounds, a fact which is now being realised to a greater extent than has been the case for several centuries. May the realisation grow! The fruit pergola in its simplest form consists of arches of hurdle-iron with galvanised wires strained between them upon which cordon trees may be trained. The training of fruit trees to a square framed pergola presents, however, little difficulty, and this is



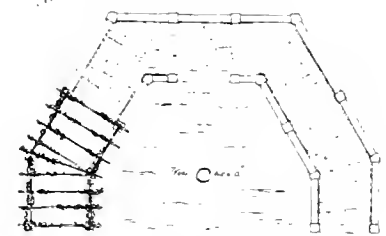
AN ADMIRABLE FRUIT PERGOLA.

proportioning shall remain satisfactory? The answer is simply by a narrowing of the internal width of the pergola itself and by spacing the piers closer together in the length of the pergola also. It may incidentally be mentioned that the piers may be set further apart in the length of the pergola if the tops are disjoined so that the pergola resolves itself into a series of quite independent square-headed arches. Some ideas as to suitable proportionings should be obtained from the annexed diagrams, but it must be borne in mind that the character and finish of the material employed has much to do with the apparent proportioning as we see it. A plain, smooth surface of dressed stone, for example, seems much wider than one of narrowly coursed but otherwise undressed stone with play of light and shade upon its surface.

itself. Many a satisfactory building owes its charm almost entirely to a bold roof-cornice or adequately overhanging eaves. The projecting cross pieces of the pergola are, though not continuous, in effect the roof-cornice of the pergola, and their proportioning is equally important. In case of doubt it is better to leave them a little overlong—they are more easily shortened than lengthened and in any event as vegetation more completely smotheres the pergola, the overhang will appear to get "smaller by degrees and beautifully less."

THE PERGOLA ON SLOPING GROUND.

The pergola running along the hillside presents no possible difficulty. It is merely a question of terracing below it and either terracing or contouring above to obtain delightful results. The pergola running up and down hill is, however,



Plan of a pergola "returned" and made symmetrical to form a feature in itself.

the natural form where wood is employed in the construction. There is no need to confine the planting of such a pergola to Apples and Pears. It may be diversified by the use of Loganberries and other hybrid Brambles, Blackberries and—where birds are not too troublesome—Red and White Currants.

FORTHCOMING EVENTS.

August 7.—Drayton Horticultural Society's Annual Show. Chippenham and District Horticultural Society's Annual Show. Lichfield Horticultural Society's Annual Show.

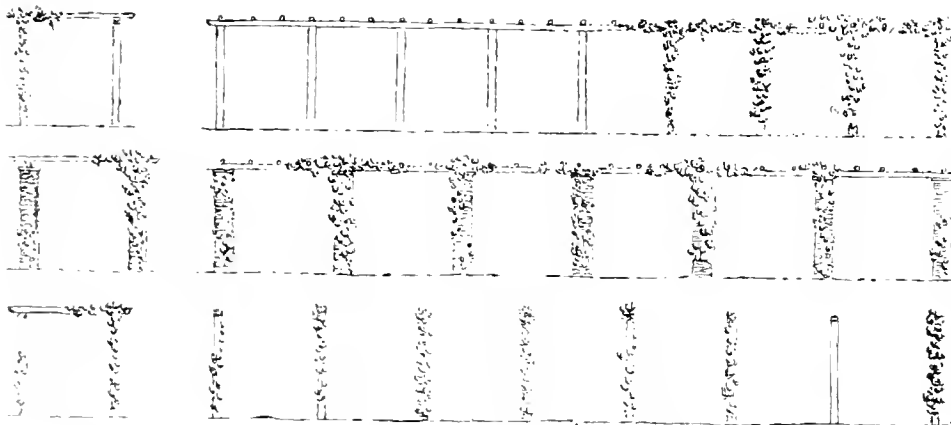
August 8.—Leicester Abbey Park Flower Show (two days).

August 9.—Royal Horticultural Society's Fortnightly Meeting. East Anglian Horticultural Society's Meeting.

August 10.—Yorkshire County Flower Show at Huddersfield. Cheshire County Flower Show at Stockport.

August 11.—Paisley Florists' Society's Meeting.

August 12.—Ringwood Horticultural Society's Meeting.



A wooden pergola in end and side elevation showing suitable proportioning; one in narrow coursed stone (undressed); and a series of disconnected wooden pergola arches.

LAVENDERS & SWEET PEAS AT VINCENT SQUARE

ALTHOUGH it was not a large Show, there was a pleasant variety of plants and flowers at the R.H.S. Hall on July 25 last. The new plants were perhaps the most interesting, and in addition to those described below, there were others of more than passing interest. A set of splendid Cannas was submitted by Mr. H. J. Jones, and these included J. B. Van der Schoot, bearing large yellow flowers freely spotted with vermilion, and Ami Max Kolb, of gorgeous scarlet-crimson colour. Messrs. Carter and Co. brought a good strain of *Antirrhinum* and *Godetia*, which are to be tried at Wisley. Mrs. M. V. Charrington, How Green, Hever, had a most interesting little collection of seedling Lavenders which she has raised, and several of them are of distinct garden value. We understand that these were to be seen later by the Scientific Committee with the view to a certificate of appreciation being awarded.

In the hall Messrs. Robert Veitch and Son had flowering sprays of such "Riviera shrubs" as *Plagianthus* Lyall (bearing beautiful white flowers), the deep scarlet shrubby *Pentstemon cordifolius*, and the Giant Honeysuckle, *Lonicera Hildebrandiana*. Another interesting and rather uncommon Honeysuckle was the plant of the golden variegated variety shown by Messrs. L. R. Russell, Limited, who also had a fine plant of *Erythrina Crista-galli* (the Brazilian Coral Tree), bearing plenty of its large pea-shaped, deep scarlet coloured flowers. This shrubby plant is

nearly hardy and may be grown in many gardens if it can be planted at the foot of a warm wall and the roots covered with broken coke for the winter. On the approach of spring the stems should be cut down close to the root-stock. In the same group there was a large standard, double-flowered Pomegranate. The flattish, pale rose coloured flowers were very interesting, but they are hidden away among the branches and do not show themselves so well as do the single flowers. Well berried branches of *Rhamnus Alaternus* were to be seen in the exhibit of Messrs. J. Cheal and Sons. The genus has no floral beauty, but it includes in *R. Purshiana* the low tree that supplies the cascara of commerce. An allied bush, *Paliurus aculeatus* (one of the Christ's Thorns), was shown by Mr. G. Reuthe, who also had the latest-flowering *Rhododendrons*.

Sweet Peas were splendidly shown by Messrs. Sutton and Sons, who were awarded the coveted gold medal. The many beautiful pink varieties held most attention, and these were Mrs. A. Hitchcock, Frilled Beauty, Picture, Giant Attraction and Doris Usher, though other shades were represented by equally well grown flowers which Messrs. Sutton and Sons always arrange so charmingly. In addition they had lovely sorts of annual *Scabious* and *Dianthus*. Excellent Sweet Peas were also staged by Mr. J. Stevenson, La France is a desirable bluish pink variety and, with Royal Scot, was quite the best of the standard sorts. Of several seedlings on view we were impressed with Poppy, which is almost

the colour of the cornfield Poppy and said to be quite sunproof; Wild Rose, charming shades of rose pink; and Cynthia, a most delightful soft lavender.

Carnations were very fresh and good, and besides Messrs. Allwood's large collection and Messrs. Stuart Low's, which included a quantity of their large White Pearl, there was a new variety called Mrs. G. R. Groom, shown in masses by Messrs. J. B. Groom and Son. It is said to be a cross between a Malmaison and a Perpetual, also that it is just as valuable for the border as for pot cultivation. The colour is a peculiar shade of salmon rose, and it is pleasantly fragrant. A very good collection of Border Carnations, with a few spikes of Gladioli, were set up by Messrs. Lowe and Gibson, who also had a fascinating vase of *Picotees*.

Roses were freely shown by several trade growers, but these did not include any new variety of merit, except the sweet red Henry Nevard and the pink Mrs. Alfred West in the collection of Messrs. F. Cant and Co., though Messrs. G. Bunyard and Co. had beautiful blooms, especially of the yellow shades. The most striking were Golden Emblem, Margaret Dickson Hamill and Christine, while the bowls of the single sorts Sheila Wilson and Isobel were delightful. Messrs. Bunyard also had some dishes and a few branches of culinary Cherries, but they hope another time to have a larger collection so as to illustrate the various types. The French sort, Triaux, was of splendid appearance.



FANCY BORDER CARNATION JESSIE MURRAY.



NEW SULPHUR YELLOW DELPHINIUM NYMPH.

NEW AND RARE PLANTS.

Campanula R. B. Loder.—A good pan of this graceful little Campanula was shown. The dark blue flowers are "doubled"—there are two corollas set hose-in-hose fashion. Its general appearance suggests *C. pusilla* and *C. rotundifolia* fl.-pl. parentage. Award of merit to Mr. M. Prichard.

Campanula Zoysii.—Although this charming little alpine was introduced from the Austrian Alps in 1896, it is not often seen in cultivation. The pale blue flowers have long tubular corollas with five triangular lobes which almost meet. Although it is quite a tiny plant, it flowers profusely and increases freely in the mooraine. Shown by Mr. M. Prichard.

Carnation Jessie Murray.—This is a very beautiful fancy Border Carnation. The large blooms are of perfect shape, and it is said to be very free flowering. The milk-white ground colour is lightly flaked with lavender, and the flowers are pleasantly fragrant. Award of merit to Messrs. Lowe and Gibson.

Delphinium Nymph.—A handsome spike of very uncommon appearance. It is exceedingly well furnished with large, shapely flowers of sulphur yellow colour, which is relieved by brighter stamens. Award of merit to Mr. M. Prichard.

Eryngium prostratum.—A very fascinating little plant only a few inches high. It forms rosettes of pale green foliage, from which rise the short-stemmed blue flower heads surrounded by green-tipped white bracts. This pretty little Sea Holly does not differ greatly, if at all, from *E. Cavanillesii*. Award of merit to Mr. Amos Perry.

Disa Julia A. Stuckey.—This genus of beautiful, nearly hardy Orchids are now, unfortunately, rarely seen; but when well grown, as was the case with this new variety, the flowers are most handsome. *Disa grandiflora*, which was one of the parents, is sometimes known as the "Flower of the Gods"; the other parent is *D. italia*. The two lateral sepals are of glowing rose colour, while the hooded, lateral sepal is lightly flushed with rose and beautifully veined. Award of merit to Messrs. Flory and Black.

Gladiolus primulinus Firecrest.—In this primulinus hybrid the individual blooms are well disposed on the spike. The velvety scarlet crimson flowers have plenty of substance, and the three outer segments are flaked with maroon. It should be exceedingly effective either for the garden or for cut flower. Our only objection to this variety is perhaps a sentimental one, but we do think it a pity that so many of the new primulinus hybrids which find favour have entirely lost the coy charm of the species. The primulinus hybrids, in our view, should not be mere miniatures of such varieties as Halley or America. Award of merit to Major George Churcher.

Kniphofia Rouge et Souffre.—Very few of the visitors who saw this handsome "Red-hot Poker" agreed with the Committee in "passing" it, for it is a really gorgeous variety. The rosin heads are borne on tall, stout stems, and the vermilion flushed buds at the upper part contrast finely with the pure yellow flowers below. Shown by Mr. M. Prichard.

Lavender Lady Violet.—This well variegated Lavender should be very welcome to lovers of variegated foliage. A compact little bush was exhibited, and it appears to be of neat habit. It was not in flower, but the leaves retain the agreeable scent of the type. Award of merit to Mrs. M. V. Charrington.



QUAINTEST OF BELL FLOWERS, CAMPANULA ZOYSII.



RICH PURPLISH-BLUE, CAMPANULA R. B. LODER.

Lavender Prudence.—The flowers are larger than those of the common Lavender and they are borne in more compact spikes. The colour, which is rather paler than the type, may be termed a glowing silvery lavender. Award of merit to Mrs. M. V. Charrington.

Odontoglossum Tagus.—A robust spike of large flowers was shown. The markings are of dull chocolate colour, and the lip is lightly flushed with pink. Award of merit to Mr. R. Gerrish.

O. Topaz.—This Orchid is somewhat similar to the above, but the flowers are larger. The marbling is a warm claret maroon on ivory-white ground, and the crest is golden. Award of merit to Mr. R. Gerrish.

Pyrus Aucuparia moravica.—The Moravian Mountain Ash is also named *Pyrus dulcis*, no doubt because the fruit is eaten in Germany and

Austria. The pale orange coloured fruits are larger than those of the common Mountain Ash, and the finely cut leaves are more graceful. From a foliage point of view it is one of the handsomest of the Rowan trees. Award of merit to Messrs. R. Veitch and Son.

Lilium sulphurgale.—This garden hybrid which, as the name indicates, is derived from *L. sulphureum* and *L. regale*, is tall, robust, well furnished with relatively small, narrow leaves and surmounted by plenty of flowers. The buds are bronzy purple, and this color is retained on the petals. The flowers are much shorter than those of *L. sulphureum* and lack the yellow tone, but are exceedingly pleasant to look upon. Many people prefer the purity of tone of *L. regale* but this is a matter of taste. Award of merit to Mr. Amos Perry and Messrs. Wallace and Co.

SOME EXCELLENT ANNUALS

Being notes of a recent visit to the trials of annuals at Messrs. Sutton's seed trial grounds, Reading.

THE world-famous seed-house of Sutton deserves well of all gardeners, amateur and professional, not only because of the super-excellence of their strains of vegetable and flower seeds, but because of the value of the trials which are held each year on their well known trial grounds at Reading. Anyone interested is gladly shewn the trials and furnished with all the information he, or she, may desire.

The large demonstration plots, from which, incidentally, seed is gathered, form the glowing masses of colour which are so notable a feature when viewed from passing trains on the G.W.R. main line, but the actual trials raised from the bulk of seeds from which customers were supplied in the spring are the most interesting feature. Trueness to type may thus readily be observed, for the trials are not "rogued." The quality of the mixtures supplied may also be appreciated.

Of the high quality of the strains under trial there can be no question. Taking the annuals as a whole, the percentage of "rogues" is quite negligible. Such satisfactory results can only be obtained by the utmost care on the seed grounds to prevent cross-pollination, and by periodical re-selection in addition.

The selection of varieties is always to a large extent a matter of personal taste, but the following were some of those which made the most favourable impression on the writer. It must, however, be mentioned that the day was dull after a wet night, and sun-loving flowers, like the *Eschscholtzias* and *Sweet Sultans*, shewed to small advantage on that account.

Of the forms of the Field Poppy, *Papaver Rhoeas*, the double Shirleys are perhaps most noteworthy, though, owing to the conditions of culture—the seeds are sown thinly, but the seedlings go unthinned—they have not the size which, under good cultivation, the same strains shew in our gardens. The single sorts, however, are very beautiful, especially the selected "pink and apricot" shades. The "single scarlet," too, somewhat similar in colour to the field Poppy, but a thought brighter and with a white basal cross instead of the typical black one, would appeal to many. The "slate blue" shades of so-called Double Shirleys also have an attraction, even to those who, like the writer, appreciate most pure clear colour. Shirley Poppies these should not really be called, since they have not the pale base which is the "Shirley's" birthright.

The Opium Poppies, *P. somniferum*, make a less general appeal, but the best on view are perhaps Peony-flowered "mauve" and "creamy-white"—the latter of a pleasing greenish hue reminiscent of *Chrysanthemum Mme. E. Rogers*—and the "giant double chamois-rose." The crimson-scarlet, black blotched species, *Papaver umbrosum*, is very striking, and two other species, *P.P. glaucum* (Fulip Poppy) and *Pavonia*, also are noteworthy.

As all gardeners know, dull weather is all against the increasingly popular *Eschscholtzias*, but the splendid *Geisha*—crimson brown without, golden yellow within—is wonderfully beautiful even with its flowers close sheathed. Near-by, a row of the tiny "miniature primrose," surely one of the most delightful of miniatures, is absolutely smothered in blossom.

The *Clarkia* trials are noteworthy for absolute trueness to type and colour, but the individual flowers are, owing to the conditions under which

they are cultivated, not up to the standard easily attainable in gardens. The new stock of salmon-scarlet is of almost dazzling brightness and excellent in every way, but the old stock bearing this name is exceedingly beautiful and, moreover, more restful in colouring. It is to be hoped that the firm will not abandon it altogether in favour of the new one; there is room for both. The trial of "mixed *Clarkia*" was remarkable for the entire absence of the purplish shades which not so many years ago largely predominated.

Those who admire that large-growing, sub-shrubby Mallow, *Lavatera Olbia*, will wish to possess for their annual borders *Lavatera rosea splendens*, very similar to it in many ways, as well as the newer deep coloured form listed as *Loveliness*.

The Scotch Marigolds (*Calendula*) as they grow at Reading rival in size of blossom and colouring the "leggy" African Marigolds, while they are infinitely freer to flower. The glorious double forms, Orange King and Lemon Queen, are admirable and come very true to type, but the single Meteor, orange yellow with a primrose zone, probably makes an equally wide appeal. French Marigolds are largely represented, both in tall and dwarf strains. Two dwarf varieties are specially attractive—*Star of India*, with petals alternately bronze and gold, and *Queen of the Dwarfs*, crimson bronze, wire-edged with gold.

Among the *Godetias* the first to catch the eye must always be the brilliant magenta-toned crimson *Afterglow*, more crimson than, but almost as startling as, the *Rock Purslane*, *Calandrinia umbellata*, which, by the way, is readily raised from seed. This is a dwarf variety, the nearest to a counterpart in the tall section being *Scarlet Queen*, a little richer, a thought less brilliant in tone. The beautiful *Apple Blossom* is not so happily named as most of Messrs. Sutton's specialities. The larger portion of each flower truly is apple blossom colour, but the deep ruddy blotches which occupy almost half the petals give a weight of colouring inconsistent with the title. The double counterpart of this, also very lovely, is called *Double Beauty*. Another fine bicolor, but in deeper shades of colouring, rejoices in the name of *Rosy Morn*. Other really beautiful sorts here are *Lavender Gem* and *Double Rose*, this last having a decided hint of salmon in its colouring.

Of the annual Lupins much might be written did space permit, but since a selection must be made we will plump for Sutton's dwarf rich blue (*sub-carnosus*) and Sutton's dwarf yellow, the latter of a clear rich golden shade still wanting in the perennial herbaceous forms, as the best two varieties. *Hartwegii* azure blue and *mutabilis* cream and pink, which is very similar to the best types of pink perennial Lupins, must be placed *proximo accessit*, so near, indeed, that some good judges would no doubt prefer them. That quaint yellow-flowered species, *Lupinus Menziesii*, was also noted.

The popular *Gypsophila elegans* is much in evidence, not only the useful and ubiquitous white form, but the so-called crimson variety, of which the newly opened flowers are truly bluish crimson, but which in the mass gives a rich rose effect, and the yet showier variety called delicate pink. This is a real pink, not a blush.

Of the *Sweet Alyssums*, minimum is distinctly the most compact and best for edgings, though *Little Berrit*, of less prostrate growth, is also

excellent. Among the showy annual *Viscarias*, the very compact and rather late-flowering "dwarf carmine" is most attractive. Of the Virginian Stocks (not favourites), *Crimson King* seems best, though in the mass it gives little hint of crimson. Many who dislike or, at any rate, can find no use for the typical form of *Silene Armeria*, would like the new soft pink form.

The prostrate *Campions*, *Silene pendula*, are invaluable for spring bedding, as well as useful for summer flower. Very lovely and true to type is Sutton's "double salmon-pink," its only rival being the rather more compact "dwarf delicate pink." From these delicate pink shades we turn to the bright china-blue platters of *Nemophila insignis*. The other colours in this charming annual seem so inferior that one wonders they are still in commerce. It is rather surprising, however, that *Nemophila atonaria atrocœrulea*, an easy-going plant with flowers of *Phacelia* blue, is not more widely cultivated.

(To be continued)

THE CULTURE OF BEARDED IRISES

THOSE fellow-readers of THE GARDEN who have grown the old German Irises for years and been uniformly successful with them although they have never spared a thought as to their culture, will doubtless smile at my title. It is of course, true that in certain rather light, clean soils these plants will flower freely and the blossoms will be little out of character, even though the only attention they receive is lifting and dividing when they become excessively overcrowded.

Not everyone, however, has such natural soil, nor will the possessor of such find it of much avail should his plants unhappily become infected with rhizome-rot. To obtain the best results with these Irises, particularly as regards size of flower, the soil should not be over-light; it should, on account of the "rot" danger, contain a fair percentage of lime, but it should not contain any appreciable content of humus. Burnt earth, particularly if rather on the heavy side before burning, suits them admirably and may be used freely. Drainage should be free, the site where they are planted open to sun and air, and the root-stocks should at no time be buried to more than half their depth.

There seems no doubt that varieties which are shy to flower—and some of the newer ones are rather shy—flower best when planted in full sun and left to establish themselves for a year or so, but there is wide scope for systematic investigation as to the comparative requirements of the different sections. Personal experience would suggest that the squalens and variegata sections are more weatherproof than the stately pallidas and trojanas, for instance. The former appear to withstand with greater equanimity—if the word may be pardoned—summer heat and winter wet.

The same remark will apply with equal force to planting times. It is by no means clear which is, in fact, the best planting season—indeed, there are considerable differences of opinion on the question—but may not the fact be, after all, that different sections and, since so much inter-crossing has taken place, different varieties, even though somewhat similar in appearance, transplant best at separate seasons? Such an investigation might not be of much practical value, since the average gardener would scarcely care to plant half a dozen sorts of Iris at different seasons, but it would be interesting none the less. H. H.

THE TENT CATERPILLARS

A plague to fruit growers.

ONE of the most injurious of these tent dwellers is the handsome little caterpillar of the lackey moth. It happens that, in some years, our fruit trees, especially the Apples, are infested with these larvae; a single tree will support colonies, and in each colony there may be as many as two hundred individuals. It is difficult to do anything with them when they have once got well started on their raids, and the fruit trees often suffer enormously.

They have now stopped eating, however. They stopped three weeks ago, and the caterpillars left the communal home and sought suitable spots for pupating. Their cocoons are of yellow silk, mixed with caterpillar hairs and a yellow powder, and the occupants are now ready to emerge as moths. A few have already emerged, and their next and immediate step is to lay the foundations for the next generation.

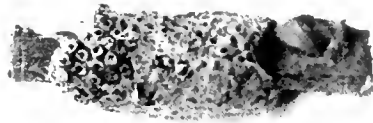
The moths themselves are out of our reach; it is always a very difficult matter to trap and destroy winged insects; but what about the eggs? In this case, fortunately for us, the eggs are very easily found and as easily destroyed. The moth lays them in such a curious fashion and in such an exposed situation that many hundreds may, with a little trouble, be destroyed early this month. They are laid on the tiny apple twigs, not in little groups that might readily be overlooked, but in close-fitting circles round the twig. They are firmly glued together, but are not fastened to the twig itself, and if the latter is cut off with a pen-knife the bracelet of eggs may be gently twisted off without breaking it. Before you crush and destroy all the little bracelets you find put one under a magnifying glass and examine the neatly arranged eggs; they are covered with a sort of varnish that, no doubt, perfectly protects them from the weather during the winter, if they are lucky enough to escape the sharp eyes of the owner of the Apple tree and of the birds. It is possible that the moth owes its popular name to this varnish or lacquer, though a more generally accepted explanation is that it is due to the gay stripes and colours of the caterpillar's coat.

Of course, this remedy of destroying the eggs is useful only in small gardens and orchards. On a larger scale other remedies would have to be used, such as toxic sprays. Powdered white hellebore (freshly ground) may be mixed with water—say, 2½ lb. to 10 gallons of water; the spray must be very fine. These quantities make a strong solution, and very frequently a solution of 10 ozs. to 5 gallons is sufficiently powerful. Though hellebore is poisonous to animal life, it does not injure the trees, beyond discolouring the leaves, and, when dry, the powder may be sprayed off with clean water if desired. This is a remedy for the summertime, when the caterpillars are devouring the leaves. I do not think either this or a spray made of Paris green would have any effect on the eggs; they have been too well protected with the "varnish."

The services of insect-eating birds during the autumn and winter should be utilised to the utmost. In this connexion, probably, the tits are our best friends. During the nesting season, of course, all birds search out eggs and grubs and insects for their families, but the tits eat insects themselves as well. An excellent idea is to provide them with nest boxes. I believe they appreciate these for sleeping in during the very cold nights, and it is very probable that, in the spring, many birds will stick to these cosy homes instead of wandering away. M. H. CRAWFORD.



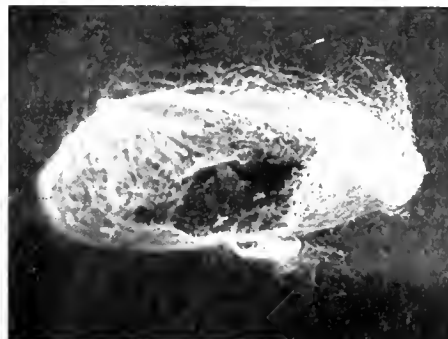
Lackey Moths, small plump-looking insects with an average wing expanse of 1½ ins.; colour pale ochre, the transverse line brownish.



Eggs of Lackey Moth laid around apple twigs in early August.



Lackey Moth Caterpillar



Cocoon of Lackey Moth.

FLOWERS IN RAIN

BY GERTRUDE JEKYLL, V.M.H.

IT is interesting to see, when steady rain is falling, how differently various kinds of flowers take it. Hydrangeas are quite undaunted; Mulleins are wide open and enjoying themselves. Some tall old bushes of *Cistus cyprus* look as if they were bearing the bloom of quite something else, for instead of having the usual flat, open shape, the flowers hang like inverted cups. The tall *Eurotia Lamarekiana* is also heavily depressed, but only mechanically; one sees that it is but for the moment and that as soon as the heaviest of the wet is over, the overladen blooms will expand and rejoice. Some are nearly full open in spite of the downpour—great luminous cups of purest pale yellow. The low-growing *E. missouriensis* is wide open. All the *Campanulas* seem to be rainproof; none shows any signs of distress except *C. lactiflora*, and that again is only mechanical, the tops being broken down with weight. *Chrysanthemum maximum* is wide open; *Eryngium* and white Everlasting Pea are untouched. *Heleniums* and other flowers that shut down their petals at night have them half down. *Senecio artemisiaefolius*, that fine deep yellow border plant that is so strangely neglected, stands up bravely. The perennial Mullein, *Verbascum Chaixi*, is brilliant and more fully open than it ever is even in ordinarily cloudy or drizzly weather. The great cup and saucer Canterbury Bells get partly filled and then turn down to tip out their load of wet. It is amusing to watch an adventurous bee, one of the few that are about, trying flower after flower, and refusing any of the great bells that have a wet flooring; at last he reaches one that was protected by others above it, finds dry footing and disappears into its recesses.

But of all flowers in rain the Sweet Williams are the most deplorable. They have the appearance of being thoroughly soaked and miserably uncomfortable and as if they could never be quite dry again. They are close to the Raspberry cage and the Raspberries must be visited. The fruits are loaded with wet, and it is as if one ate quite a new kind that had quite three or four times its usual amount of juice. I can confidently recommend Raspberries and rain!

Anchusa hangs down, but only from the weight of wet, for a little shaking restores its poise. The rain runs down the Bamboo foliage and drops freely from the points, leaving all the surface wet, but if one turns a leaf over the raindrops run off without wetting it. I do not know whether it is the same with all, but of the Bamboos I have I find it impossible, short of rubbing it hard in, to wet the underside. But it is pretty to see the Lupins. Coming upon them in an interval in the downpour, every leaf holds a little crystal globe where the leaflets join, with many smaller ones all about. Here, again, the leaf surface does not seem to be wetted all over, as the crystal beads, sometimes singly and sometimes clustered, do not lose their globular form. Their size is in proportion to that of the leaf. In the large perennial *L. polyphyllus* the leaf-cup holds a globe over a quarter of an inch in diameter, while the smaller leaved Tree Lupins are gannet all over with tiny round crystals. *Erigerons* are certainly unhappy and look woefully bedraggled; the ray florets, though on plants of the best kinds, are for the time being thin and skimp. *Artemisia lactiflora* is thoroughly contented, in pleasant contrast to its shrivelled, withered appearance in the drought of last year. *Anthemis tinctoria* stands the wet well, but best of all is the triumphant appearance of the Snapdragons.

CORRESPONDENCE

ROSE KEW RAMBLER.

IN the issue of July 22, page 357, Rose Kew Rambler is referred to as suitable for "pergolas, archways and for similar purposes." To avoid disappointment to planters of this beautiful Rose

in the valley (500ft.) fell to 32.9 the night after the snowfall, so presumably there would have been several degrees of frost at that altitude.

As they enjoy wet situations and a heavy rainfall (we had 25ins. during last June and July and probably double this fall in the mountains), I should think they ought to succeed out of doors in the South of England.—LIONEL BAKER, *Groot Drakenstein, Cape of Good Hope.*

QUAINT CYCLAMEN SEED PODS.

I AM enclosing a photograph of a tuber of *Cyclamen neapolitanum* which should, I think, be of interest to readers. The tuber is 6ins. in diameter and was grown in deep loam soil in Hertfordshire. The picture shows what I consider to be an unusually fine lot of seeds. As will be seen, fibres are produced all over the surface of the tuber. This *Cyclamen* has been naturalised successfully in several localities in Britain.

This, perhaps the handsomest of hardy *Cyclamens*, has ivy-like foliage and relatively large flowers, produced in the autumn in varying shades of pink or pure white, spotted crimson at the base of each segment. It flowers best when not growing too luxuriantly, but is not at all shy to blossom under any reasonable conditions of culture. It will succeed in light shade or full sunshine.—H.

THE REMOVAL OF SPENT FLOWERS.

HOW often one sees in gardens dead flowers—especially Roses—left on the plants! I make a practice of removing all flowers when past their best. This work in some instances is a back-aching pastime, but I get my reward in the form of more flowers. Not only do spent flowers give the garden an untidy appearance, but they do not improve the health of the plants concerned. Suckers should also be removed. If every garden-lover would pay a little attention to this "cutting over," our gardens would present a more cheerful appearance.—L. H.

MUSSINI'S CATMINT.

A NOTE of mine concerning *Nepeta Mussini* which appeared in *THE GARDEN* last October gave rise to some enquiries among friends of mine as to its capabilities, and the outcome was the establishing of it in several gardens to which, previously, it had been a stranger. I know of no hardy herb half so accommodating, and be the season what it may, its flowering is never hindered. At the present time—thanks to the rain—plants are full of young shoots which spring from the base, and these if cut and planted in sandy soil quickly take root. One point worth remembering in propagating *Nepeta* is to prevent, if at all possible, flagging of the cuttings should the weather be hot and dry. Young plants as a rule give the finest spikes, though from old plants there is little dearth in numbers. The colour, a lavender or smoky blue, is very pleasing, and the blossoms continue in good state for many weeks. I have noticed in several establishments that *Nepeta Mussini* is being used as a fringe to borders in the vegetable domain as well as on shrubbery borders. This is

not a matter for surprise considering how rapidly young plants grow. Every little portion quickly strikes in soil of a sandy nature.—CLAREMONT.

BOX EDGINGS TO ROSE-BEDS.

SOMETIMES in old establishments one finds beds and borders edged with Box that gives evidence by its growth of having been planted many years. One such instance came under my notice recently, where beds of Roses surrounded by this primly kept shrub were in a very bad state through the ramification of the roots of the Box, which had simply sapped all the nutriment rightly belonging to the Roses. Comparatively few in these days permit Box to usurp ground rightly belonging to other plants, least of all Roses. In the case under notice the edging consisted of a wall of Box some 8ins. in height and 6ins. in width, and the roots had spread to such an extent that scarcely any Rose in the bed was free from them, and poverty of wood and insignificant flowers revealed all too plainly that the edging had taken complete possession. At its best Box cannot but be regarded as prim and stiff, and if left for years must eventually destroy plants in the immediate neighbourhood of its roots.—W. LINDERS LEA.

LILIES FROM SEED.

I HAVE read your article on "Raising Perennials from Seed" (*THE GARDEN*, July 1) with the greatest interest, especially as regards Lilies. In 1918 I sowed a packet of *Lilium regale* seed, obtained from Messrs. Thompson and Morgan, in a pot which was placed in a small cold greenhouse. For some reasons (chiefly woodlice, I believe) it was very difficult to raise anything in the house in question, and I thought myself lucky in getting two strong seedlings—this Lily then being priced at 10s. 6d. each by nurserymen. The two, in 5in. pots, suffered many things from repeated removals on our part, but triumphantly flowered in 1920, being then, still in their pots, in a small town garden, or backyard, in Pulleney Street, Bath. They then ripened seed, which I sowed immediately in a box. This, in its turn, travelled about with us, spent six months in Wales, where the seedlings grew rapidly, then a like period at Trowbridge and at Box in Wilts, both of which places they seemed to dislike, making little advance; finally they returned to Bath, were potted off, three in a 6in. pot, in rich, light soil of loam, leaf-mould and old hot-bed stuff, with a little Weston-super-Mare sand, and are now, to the number of about fifty, a picture of health. There is, of course, nothing particularly interesting in this history, but it shews that there is no difficulty in raising for oneself a fine stock of Lilies that, even now, would cost 5s. to 7s. 6d. each to buy. (It also shews, I think, that the nurserymen ask too much for Lilies in general.) No doubt the Lilies would have got on faster if I could have treated them in the right way, as described in your article, and left them undisturbed.

Some *Martagons* we found in our garden at Trowbridge ripened a lot of seed last summer, and this, sown in boxes, is also up and making second leaves, but does not seem quite so quick or so vigorous as *L. regale*. The worst thing about this most fascinating pursuit of Lily growing is that it is so hard to come by the seed in a fresh condition, or in any at all, for that matter. I hope some of your readers who grow Lilies will be kind enough to advertise their superfluous seed for sale this season!

It is a curious thing that the common *L. candidum*, seen so much more often than any other Lily, never seems to increase itself by seed. I never got a voluntary seedling from large beds



THE QUAINT TUBER AND SEEDS OF CYCLAMEN NEAPOLITANUM.

they should be acquainted with its habit of growth. No doubt, with a certain amount of persuasion and pruning, Kew Rambler could be induced to cover an arch or pergola, as the old (parent) plant is now 10ft. high. Rather, however, is it a husky "rambling" than a "climbing" Rose, more suitable for clothing a rustic fence, an open wooden fence or rough poles with spurred branches 5ft. to 7ft. or 8ft. in height. Pushing up vigorous young shoots from the base, the best treatment would appear to be the removal of the old stems to the base after flowering each year.

A cross between *Rosa Soulicana* and the popular *Hiawatha*, the individual flowers average 1½ins. in diameter. The centre of the flower is white with a broad band or edging of rich pink. Kew Rambler might easily be mistaken, as far as colour goes, for the artificial Roses sold on *Alexandra Day*. In addition to a pleasing fragrance, it has a very showy tuft or rosette of golden-tipped stamens an inch across. Another important characteristic is the substance and consequent lasting character of the flowers.—A. O.

THE LACHENALIA IN NATURE.

IT may be of interest to growers of *Lachenalia* in England to know of the severe conditions they have to put up with in their native haunts.

The best patch of these charming flowers I have seen is situated on the top of a small rounded peak at about 2,000ft. above sea-level. Here they grow in thousands and are comparatively undisturbed, except by baboons, which destroy a good many by pulling up the bulbs and scattering them about.

During the past week (the last week in June) this peak was thickly covered with snow for four days, just at the time when the plants are in full growth. This is no unusual occurrence, though the snow seldom lies for so long. The temperature

of it, and, for that matter, cannot recall having seen its seed—perhaps because I never looked for it! When one has a large garden it is so easy to divide things. It is only when a gardener goes under the harrow of repeated house-movings that he realises what working up stocks means, and begins to sit up and take an intelligent interest in economical production!—M. L. W.

[The nurseryman who grows his own Lilies has to employ hired labour and allow for rates, taxes, depreciation of frames and other items. Competition alone, would ensure cheaper prices were such feasible.—ED.]

IMPROVING VILLAGE GARDENS.

ON page 202 of your issue dated April 23, 1921, you published a review of the excellent work which has been accomplished at Old Warden, Bedfordshire, in the cottage gardens as a direct consequence of the competition instituted in 1903 by the late Colonel Frank Shuttleworth and maintained since his demise by Mrs. Campbell, whose residence is Old Warden Park. There was a compulsory break in the sequence in the war years of 1915, 1916 and 1917, and a second lapse came last year when, owing to the protracted drought, there were no crops upon which to adjudicate, very much to the regret of Mrs. Campbell.

The judging was done this year on July 17 and 18, when marks for every crop growing in rather more than forty cottage gardens were recorded on the recognised scale. The result brought no fewer than thirty-four successful cultivators, with a grand total of 4,012 marks. The prizes are at the rate of a penny a mark for every mark secured, with the reservation that no

do the judging. The keenest interest is displayed by every cottager in the village, and there is a proper, general appreciation of Mrs. Campbell's generosity in maintaining it.—HORACE J. WRIGHT.

FRAGRANCE IN THE ROSE.

READERS of THE GARDEN are indebted to the writer of the short article on page 341 on this subject. There is, unfortunately, too much pessimism rampant in regard to Roses which lack fragrance, and though scentless varieties only constitute a very small minority, some people apparently never seem to forget their shortcomings in this particular, and close their eyes to the other charms they possess of beauty and grace, in colour and form. It may be remembered at the time of the introduction of Frau Karl Druschki, with its peerless white blossoms, its lack of perfume was much commented upon, and on this account alone there were those who refused to grow it. Surely when so many Roses possess the subtle gift of sweetness we can afford to ignore the absence of it in so few otherwise charming sorts! After all, the proportion of Roses exempt from perfume is so small that we need not be despondent! The list of fragrant sorts published does not include all those valued because of their aroma by any means, but it is enough to show that no one need be without Roses that are both sweet and beautiful.—L. W.

BEARDED IRISES AND LUPINS.

SHOULD you care to reproduce the enclosed photograph of a piece of my garden I should be glad for you to do so. Very few people realise what a gorgeous display can be had in May and

ENGLISH IRISES

Collection growing.—The pleasures of anticipation.—A selection.—The wand of the rain.

AFTER a long interregnum I have this year again renewed my personal acquaintance with the English Iris, not that the garden has ever been wholly without any, for I have been carefully "growing on" a lovely deep rosy mauve seedling of my own; and for a short time I had a deep purple and a rich blue—both likewise home-raised—but these last two, alas! were victims of the war. They were all three *sels*. Last autumn the time seemed to have come when I might get a small collection for trial. I am always very keen on collection-growing. The pleasure of anticipation is still as green and virile within my breast as ever it was and coupled with this there is the mild but very real excitement of seeing if anything good will turn up among the unknown or the forgotten. I am always ready to be told of "good things," but as "stolen waters are sweet and bread eaten in secret is pleasant," so finding out for oneself which are the best among the flowers that have lent themselves to variation is sweet too. Therefore I am a confirmed grower of collections. Comparisons here, as Shakespeare says, are odorous, *not* as lesser men would have it, odious. They are the sweet smelling savour which seems to satisfy the natural bias of human nature to pick and choose.

Sometimes we get jars. The result of the trial is far from what we expected. The truth must be told that the English Irises were a most disappointing lot. There was not a single self-coloured variety among the twenty-five and, worse still, for the first time my choice mauve seedling had six broken or blotched blooms. I cannot honestly say that I cared very much for any one of the whole collection. Even the whites were tinged or striped with colour, and were poor things compared with the pure Mt. Blanc of other days. Every one was blotched or marked in some way. Have all English Irises become jazzers? Have they all discarded those beautiful self colours that I remember so well? Tell us, someone with greater experience than mine, if this is so. Tell us if there are any of those delightful *sels* left. Is my experience this year only what one must nowadays invariably expect? Is "Tekel, tekell," written large on the wall? Does it mean that there have been no raisers of seedling English Irises among the last generation? I have an idea that sooner or later all varieties undergo this distressing change. But the pity of it!

Some varieties, of course, are more presentable than others, and if we keep them at a respectable distance are not so bad. I remember an old squire telling me what a shock he got when he first saw the face of the wife of one of his tenants. She had a beautiful figure and well cut clothes, and her back view was charming; but, poor woman, she was very plain when you saw the front view. It is much the same with the Irises now in flower. They are all right from the windows, but they are "plain" when you get a near view. It is a difficult matter to select the best. It would be going too far to call it a choice of evils, but it is getting on in that direction. They cannot help their looks; moreover, it is quite likely that it is man who does not fully understand their necessities who is in fault. Let me, then, conclude by giving the names of five of the most satisfactory. Snowflake (good white with faint rose markings in the standards), Prince Albert (mauve with



LUPINS AND BEARDED IRISES; DARTMOOR IN THE BACKGROUND.

competitor scoring fewer than 100 marks shall receive an award; the cash value of the prizes on this occasion was therefore £16 14s. 4d., which was distributed to the several recipients on the evening of the second day of judging. The premier position was taken by Mr. J. Wiltshire—as it has been regularly since the first inspection—with 189 marks; the second by Mr. W. Foster, with 156 marks; and the third by Mr. W. Palfrey, with 151. As usual, it was a very real pleasure to

June from the close proximity of Irises and Lupinus. The picture, I think, tells its own tale.—(Mrs.) ANNIE B. BUTCHER, *Tavistock, Devon.*

[Our correspondent is undoubtedly right as to the lack of appreciation of this particular combination. In a comparatively small proportion of gardens is justice done either to the Bearded Iris or the Lupin, so that it is scarcely wonderful that their value in combination is not widely recognised.—ED.]

purple blotches), Othello (rich dark blue with very dark markings), Socrates (tall dark purple with almost black markings), Starlight (late; purple standards with blue falls with a white centre). It was very noticeable the difference that the rain made in all the English Irises. I thought I had never seen such a miserable-looking lot of flowers as I saw at the R.H.S. Hall on June 27 and again at the Rose Show two days later. I

felt prepared to eat my hat if I had not a good deal better at home, but when I went into the garden on my return and saw the long bed I found to my horror that mine were just the same pitiable curled-up looking objects; obviously the dry spell with the hot sun and high winds had been too much for them. The change one long day's rain made was almost incredible.

JOSEPH JACOB.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Winter Tomatoes.—From seed sown at the end of June or early July healthy young plants should now be available. Directly they are sufficiently rooted and strong enough, transfer them into their fruiting pots, which need only be 8 ins. or 9 ins. in diameter. When potting them place a few ½ in. bones at the bottom of each pot, as this will prove beneficial when the plants are developing their fruits. Grow the plants under cool conditions, and pinch out the lead as soon as four or five trusses of fruit are set.

French Beans.—In addition to seeds being sown as advised in previous issue, it will be necessary, where it is essential that a constant supply of this vegetable be obtained as long as possible, to make use of cold frames to ensure success. Use fairly rich soil, and sow in rows about a foot apart, allowing each plant 9 ins. for development. It will not be necessary to put any lights on for some weeks, but encourage the plants to make a quick, clean growth by keeping them well watered and regularly syringed on warm days. Should a further sowing have to be made, this must be in frames where there is some heating arrangement to be made use of as soon as necessary.

General Work will include the removal of all exhausted crops, which may be burnt or taken to the rot-pit, as considered best and most convenient to carry out. Keep the hoe going as much as possible between all growing crops, and water such as Celery, Runners, etc., if possible, whenever necessary. Use diluted farmyard water freely on heavily cropped Beans. Allow no ground to be wasted by having blanks between any of the winter and spring greens. There is still ample time to get out more Leeks if wanted, and these later-planted ones are often much more appreciated than the early ones which grow so large, and a most important point, too, is that they keep well into spring without bolting.

The Flower Garden.

Lilium candidum.—August is the month to deal with this beautiful Lily, whether it be the planting of new bulbs or the division and replanting of clumps which have grown too large—it such be possible—or have lost something of their floral vigour. The position selected for the bulbs to occupy should be deeply dug and thoroughly well drained, and while full sun is not necessary during the whole day, the site should be a warm one. Avoid planting too deeply on heavy land, and introduce a liberal amount of gritty compost or some sharp sand around each bulb.

Woodland Walks frequently provide not only a charming retreat from the more formal garden walks, but are often the agencies used to open up vistas of the surrounding country. At this time, while leafage of all trees and shrubs is so luxuriant, care should be taken that overhanging branches do not mar good views, particularly so when the latter, a little later in the season, are rich in the many glorious autumn tints. Anything approaching a close trimming of trees in such rides should be carefully avoided, the aim being as natural an effect as possible. All long, coarse grass on and near such walks can be cut over at the same time, especially where it is growing round clumps of Ferns, etc.

Pansies required for spring display can be sown now in boxes of light soil in a cold frame. Prick out the seedlings when strong enough in nursery quarters. Unless a good strain is purchased, it is as well to leave Pansies out of the bedding scheme.

The Hardy Fruit Garden.

Wasps.—These pests are often excessively troublesome on easily worked soils, and it is necessary to commence the destruction of the

nests as soon as they are found. The most effectual way of dealing with them that I know of is to place a little cyanide of potassium in the mouth of the hole in the evening, afterwards placing a piece of turf over the hole. Follow this up next morning, if convenient, by digging out the nest, thus making sure of the destruction of the grubs. Cyanide is a deadly poison and needs handling with the greatest care. It should be mentioned that it can be used in the dry or liquid form. When used in the former way a small piece of the crystals about the size of a small nut is enough for a nest; to use the liquid, thoroughly soak a piece of cotton wool about the size of a hen's egg with it and place in the mouth of each nest.

Fruit Under Glass.

Muscats Grapes.—Many houses of Muscats are now approaching or have reached the colouring stage, and no effort should be spared which will be of assistance in enabling this queen of Grapes to finish in the highest possible manner. Make certain that the border is sufficiently moist and that sufficient nourishment has been supplied to the roots. Suppress all lateral growths likely to make too thick a covering, remembering that the old remark which says, "Light for white Grapes and cover for black" is true when applied with discretion. Maintain at all times a little pipe-heat as this ensures a freer circulation of air—a most essential point to bear in mind. See that any atmospheric moisture applied during daytime is dried up by early afternoon.

H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.)

FOR NORTHERN GARDENS.

The Kitchen Garden.

Celery.—Dust the plants now with soot as a preventive from attack by the Celery fly. Where this pest is allowed to breed, the crop may be ruined, as the foliage becomes perforated and blighted, and this naturally retards growth. Spraying may also be done, and one of the most useful mixtures for this purpose is to boil a pound of coal-tar in a gallon of water for about twenty minutes, adding fifty gallons of clear water, and spraying every ten days for a period.

Globe Artichokes.—Cut the heads immediately they have attained a fair size and before they commence to open. If not required for immediate use they should be stood in water, changing it daily and placing the receptacles in a cool cellar.

Cucumbers.—Attend to plants in full bearing, and feed liberally so that the crop may be prolonged. Thin the laterals freely, and so permit light and air to benefit the young growths that are retained. No fire heat is necessary at this season, but advantage should be taken of solar heat by closing the pit early in the afternoon. Cucumbers in frames may be treated in similar manner, with the exception that less moisture will be needed, as the young fruits damp off readily if lying on the soil.

Winter Greens may yet be planted in quantity as ground is cleared. More especially is this desirable where, owing to want of space earlier in the season, the crop was limited.

Fruit Under Glass.

Pot Vines.—Where canes are required for early forcing next year the pots should be moved out of doors and placed in the shelter of a wall or hedge facing south. This position will prevent the young rods from sustaining damage from high winds, and yet allow full play of sun and air on the wood and buds. Pay strict attention to watering; at no time allowing the roots to become unduly dry.

The Flower Garden.

Layering Carnations.—Most of the Border varieties will now have sufficiently strong growths to allow the important work of layering to be proceeded with. Prick over the surface soil around the plants, and add a goodly quantity of sharp sand to keep the soil porous. Prepare a quantity of sifted soil, sharp sand and leaf-mould and use for placing round the parent plant, so that the layers may root quickly and establish themselves in other quarters early in September. After making the incision it is important that the layer be firmly pegged and placed in such a position that the young plant will be perfectly erect. Should dry weather prevail, the layers should be thoroughly watered, as root action is slow when the mounds of soil are allowed to become dry. Continue watering regularly until growth is noticeable.

Budding Roses.—Although this interesting work is not often practised in private gardens, there are many who prepare a few dozen Briars for this purpose yearly, and the present time is suitable for carrying out the work. Showery weather is preferable for the purpose.

Violets.—Where these are growing in nursery lines with a view to being transferred to frames later on, liberal attention should now be accorded the plants if the finest results are to be attained. The plants should receive copious waterings of liquid manure from the byre. Keep the soil between the lines well hoed or loosened with a Bencho cultivator. As red spider is apt to attack the leaves of Violets during dry weather, the foliage should be vigorously syringed as soon as the sun goes off them in the evening. As a preventive a small quantity of Abol insecticide added to the water will be found effective.

JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham Kilnarnock.

CONSERVATORY AND GREENHOUSE.

Pelargoniums.—Show and regal varieties that have been standing out in cold frames should now be cut back and the tops inserted as cuttings for young stock. The cutting pots may be stood on a shelf in a cool greenhouse, or the cuttings may be rooted in a cold frame, keeping the frame lights over them. When the old plants are starting into growth they should be shaken out and repotted into the same sized pots. If stood in a cool greenhouse they should be watered sparingly until the roots get a hold of the fresh compost.

Kalanchoes *flammea*, *Dyeri* and *kewensis* are all excellent plants for the cool greenhouse. Cuttings may now be inserted singly in small pots, and as they are all fleshy, succulent plants they root readily on a shelf well up to the roof glass in a cool greenhouse. When rooted they should have a shift into 48 sized pots, in which size they will pass through the winter. During the winter months they should be kept on the dry side. They all grow quite well in ordinary potting compost, to which should be added plenty of old mortar rubble, as these plants enjoy free drainage at all times.

Liriope spicata (syn. *Ophiopogon*) is an excellent plant for furnishing the conservatory and is useful for indoor decoration. The striped variegated leaves are very bright and pretty, and the spikes of bluish purple flowers are freely produced. Planted out as an edging to beds in the conservatory it is very effective at all times. This plant may be increased by division, and for furnishing purposes it is best grown in 48 sized pots. The plants may be divided at any time during spring or summer. They grow freely in ordinary potting compost in a cool house and must never be put in a stove temperature, or they will refuse to grow at all, the growing crowns making a hard rounded bud. In this respect the *Liriope* is unique, as most cool house plants will at least make weak and weedy growth when placed in a high temperature.

Muehlenbeckia platyclada.—Where green plants are required for mixing with other plants in the conservatory this species is very useful, as it quickly makes nice plants. It is easily propagated, either in spring or summer, by means of cuttings, which root readily in a close case with slight bottom heat. Like many other plants used for the embellishment of the conservatory and greenhouse, it is best grown in an intermediate temperature of some 50° to 55°. Good useful plants can be grown in 5 in. or 6 in. pots.

Cordylina australis and its several varieties are popular and useful plants for the conservatory, either as specimen plants for beds, or in their

younger state for the stages. The plants grow freely in ordinary good potting compost. As they become tall and leggy, the stem should be cut half way through just under the bottom leaves. A handful or two of moss should then be tied round the stem at this point. If the plant is kept on the dry side, and the moss kept moist, plenty of roots soon push out into the moss, when the top should be cut off and potted into a suitable sized pot, using a light, rich compost at this stage. If kept in a close, warm house for a few weeks it soon becomes established, when it may be removed to a cool house. If the old plant is turned out of its pot a number of so-called toes should be found; they are really underground stems, not roots as is generally supposed. Each has a growing point. These afford a ready means of propagation, and if they are cut off several inches long, the roots should be trimmed off, and the toes laid in fibre in a warm case, where they in time will produce leaves. They should then be lifted and put into small pots, afterwards potting them on as they require it. In addition to the green type, which varies considerably when raised from seed, there is the variety *purpurea*, or *lentiginosa*, a beautiful dark-leaved variety. The varieties *Doucettii* and *de Grootii* are both fine variegated forms. *Cordylina stricta*, *C. Haageana* and *C. Brianti* are smaller growing and elegant species, all very useful in the small state for decorative work. They are increased by means of toes; or the slender stems may be cut into short pieces which, if laid in fibre in a warm case soon produce roots and commence to grow. They should then be lifted and put into small pots.

Royal Botanic Gardens, Kew. J. COUTTS.

EDITOR'S TABLE

FROM Mr. C. H. Herbert, Acock's Green, came recently beautiful flowering sprays of some of his newer Pinks (*Herbertii*). These included three varieties all salmon tinted, namely, *Bridesmaid*, the charming pale salmon which received an award of merit at Chelsea; *Mrs. Giffard Woolley*, an exceptionally large and handsome flower the exact shade of *Enchantress Carnation*; and *Prince of Wales*, a bright rosy salmon variety also of large size, but more loosely built and with larger petals. The last two are not yet, we believe, in commerce, but they should be eagerly sought after when marketed.

The True Gum Cistus.—Do not plant that magnificent species of Rock Rose, *Cistus ladaniferus*, under the impression that it is a dwarf grower suited to the rock garden—for it is not! Indeed, it is more truly a shrub than most and reaches a height of between 3ft. and 5ft., although it is a very slow grower and takes many years to attain this height. At the same time, this should be allowed for when planting, so that, as it does extend, less valuable plants can be scrapped to make room for this very handsome specimen. A sunny position should be chosen, for it is apt to be badly cut by severe frosts in winter where exposed in the open, especially if north and easterly winds sweep across it. A light soil suits it well, and it is splendid for planting where the ground is very thin and sandy. During July the bushes are most effective when covered with the immense solitary white flowers, at the base of each petal of which is a large deep purple blotch. Visit it early in the morning when these have first expanded and you will be amazed at their beauty, while fresh buds expand every morning so that it is striking and effective for many weeks. No pruning is required, beyond cutting out any dead wood in spring after the new leaves are well in view.

A Charming Poppywort.—That beautiful Chinese plant *Meconopsis integrifolia* is one of the most precious gems that the rock garden can show when seen at its best in June and July.

Not so many years ago it was an entire novelty, and even now is but seldom seen and, in spite of its extreme beauty, seems likely to remain a scarce plant.

Culturally, it does not love the sunlight over-much, but appreciates a spot fully in the open where it receives plenty of light within the shade of—but clear from the overhanging boughs of—a belt of trees. Their preference in soil is a mixture of fine peat, leaf-mould and sand, which should always be evenly moist. Sometimes great success can be attained by growing in a very sunny place on the outer margin of the log garden, where the soil does not dry out; but there is always a certain amount of risk in this compared with a shadier spot, for an excessively wet period may cause rotting of the plants, while a prolonged drought may easily cause the outer fringe of the bog to shrink, leaving them high and dry. Owing to the woolly nature of the leaves, protection from wet in winter is absolutely imperative. This can be supplied by means of a pane of glass secured a few inches above the plants so that the air can circulate freely beneath. The plants are perfectly dormant all the winter, and the glass may be left on until growth commences in early spring. The appearance of the plant is that of a rosette of beautiful woolly green leaves, from the centre of which rises a central stem to a height of about 2ft., carrying large primrose yellow flowers with bunches of stamens of the same hue. It is worth noting that there are two forms of this species, that first discovered bearing several flowers, each on a separate pedicel which branches from the main stem. The second variety does not branch at all, so far as the stem is concerned, but produces one flower at the termination of each, although it pushes several stems from every root.

Pannonian Clover.—An uncommon, but not showy plant is the Pannonian Clover, *Tritolium pannonicum*, which begins to bloom in June and continues in flower until September. The flowers are pale yellow, but of a deeper shade than ordinary Clover. They are, moreover, much larger and are borne on plants a foot or more in height, which varies considerably according to the nature of the soil. The foliage has the characteristic features of the genus, and the flower heads, which are of large size, are more conical than those of the common field Clover. The plant is naturally an object of interest to farmers, but it is doubtful if it has any value for forage purposes. As a border flower, however, it is quite good. It is, indeed, just one of those plants which attract and interest all garden visitors. It may be raised from seeds or increased by division. The root-stock is very hard and division is, on the whole, rather difficult. *T. pannonicum* thrives well in ordinary garden loams.

Two Useful Thalictrums.—While there are many who grow the more vigorous sorts of *Thalictrum* which have an attractiveness both from the point of foliage and blossoms, as represented by *T. aquilegifolium* and *T. dipterocarpum*, quite a number, for reasons not always understood, leave out of their purview altogether varieties the special charm of which lies in their dainty fronds. In this connexion our mind turns to two sorts we have long grown, viz., *T. adiantifolium* and *T. a. minus*, the latter being comparatively dwarf, seldom exceeding more than a foot in height and—as its name implies—bearing a close resemblance to the tender Fern of that name. The one under notice asks for no other treatment than that accorded to *Thalictrum* in general, viz., fairly light soil in which leaf-mould or vegetable matter is incorporated, well drained, and a position where partial shade predominates, as under a pergola, for instance. So many over-

look these daintier varieties of the Meadow Rue, yet they are practically as hardy as the more robust sorts.

Garden Refuse.—There are, unfortunately, many amateur gardeners who do not realise the value of decayed vegetable matter in the garden. They invariably burn it. In the majority of gardens, both large and small, there is generally an odd corner where a hole could be dug and the refuse thrown in. Of course diseased plants are best burnt. The material so collected and placed in the rot-pit should be turned occasionally in order to hasten decay. By the time that autumn arrives there will be valuable manure for the garden. A light covering of earth may be placed over the material. Occasional waterings will be helpful. As regards hard-wooded material, this should be burnt, as its decomposition may take years to effect if placed in the rot-pit and while decaying it affords a breeding ground for fungi. The ashes obtained from burning hard-wooded branches should be saved and kept dry. They form a very efficient and practical substitute for artificial potassic manures.

The Leucothoes.—In gardens, the genus *Leucothoe*, one of the Heath family, is best known by *L. Catesbaei*, a spreading evergreen shrub which bears great quantities of white flowers, but on the lower side of the branches, so that they are largely hidden from view by the leaves. That species is found in mountainous regions on the eastern side of North America; *Leucothoe Davisæ* is a native of California. The branches are erect and the flowers are shown to great advantage. The racemes are 2ins. to 4ins. long, the flowers nodding, pitcher-shaped, about a quarter of an inch long and white. They open in June. The foliage is evergreen, and very firm in texture.

National Diploma of Horticulture.—We are informed that the Royal Horticultural Society's National Diploma in Horticulture has been awarded to the following as a result of the written and practical examinations for the diploma held this season:

Section 1. General Horticulture.—Miss D. F. Cavalier, Burgess Hill, Sussex; Mr. S. J. Channing, Sutton Scotney, Hants; Miss C. Choules, Hornchurch, Essex; Mr. H. Gethen, Mondamin, West Mersea, Essex; Miss M. H. Hemming, Hayfield, Derbyshire; Miss K. L. Syer, Charlton, East Sutton, Maidstone, Kent.

Section 1(b). Fruit and Vegetable Growing.—Mr. C. J. Glead, Winchester, Hants; Mr. H. F. Maidment, Cannington, Bridgwater, Somersetshire.

Section 1(c). Fruit Growing.—Mr. J. W. Hall, Edinburgh; Mr. D. G. Henry, Portobello, Midlothian.

Section 6. Public Park Gardening.—Mr. F. Baker, Wigan, Lancs; Mr. L. E. Morgan, Crews.

Section 7. Horticultural Inspection.—Mr. C. H. Oldham, Chandlersford, Southampton.

Trial of Early Strawberries at Wisley.—The Royal Horticultural Society will carry out a trial of early Strawberries in their Gardens at Wisley during the coming season. Twenty plants of each variety to be tried should be sent to reach The Director, R.H.S. Gardens, Wisley, Ripley, Surrey (from whom the necessary entry forms may be obtained) on or before August 15, 1922. Only early fruiting varieties should be sent.

Trial of Antirrhinums Under Glass at Wisley.—The following awards have been made by the Council of the Royal Horticultural Society to Antirrhinums grown in pots under glass at Wisley. Awards of merit.—Snowflake, Canary Yellow,

Crimson-Scarlet, The Bride, Canary Bird, Captivation, Morning Glow and Flegance, all sent by Messrs. Barr; Yellow, Maize Queen, Amber Queen and Moonlight, all sent by Messrs. Dobbie; Yellow Queen, from Mr. Dawkins; Golden Gem, from Mr. Dawkins and Messrs. W. H. Simpson; Rose Queen, Queen Victoria, Esme and The Fawn Improved, all from Messrs. W. H. Simpson; Prima Donna, from Messrs. Barr and Messrs. Veitch; Coral Red, Maize Queen and Lilac Queen, from Messrs. K. Veitch; Queen of the North, from Messrs. Toogood; Firelight, from Messrs. Dickson and Robinson; Cerise King, sent by Messrs. Watkins and Simpson; Bonny Lass, from Messrs. Barr and Messrs. Watkins and Simpson; and The Fawn, sent by Messrs. Webb, Highly commended.—White Beauty, from Messrs. Dobbie; Rose Doré, from Messrs. Watkins and Simpson; Salmon Queen, from Messrs. Dickson and Robinson; Admiration, from Messrs. Barr.

Imperial Fruit Show.—From October 27 until November 4 the Daily Mail Imperial Fruit Show is to be held at the Crystal Palace. The schedules and prize lists of the commercial and amateur sections are now obtainable. Entries are free in all amateur classes. The schedules may be obtained from the Secretary, Daily Mail Imperial Fruit Show, 130, Fleet Street, London, E.C.4. Intending exhibitors should state when writing whether commercial or amateur's schedule is required. Entries close for commercial section on Monday, October 2 and for the amateur section on Saturday, October 14.

Manual of British Botany.*—This is the tenth edition of the late Mr. Babington's book, which has been brought up to date by Mr. A. J. Wilmott, B.A., F.L.S., who is an assistant in the Department of Botany at the British Museum. This useful little book contains 612 pages of matter invaluable to the botanist. Of convenient size, the book will slip in one's pocket, so should be of great assistance to those on botanising excursions.

* "Manual of British Botany." Edited by A. J. Wilmott, B.A., F.L.S. Published by Gurney and Jackson, 33, Paternoster Row, London, E.C.; price 16s.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—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.2. 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.

FLOWER GARDEN.

POPPIES UNSATISFACTORY (A. E., Troon).—The specimen sent throws no light upon the cause of the comparative failure unless the plant is in a different position from others in the garden and is exposed to conditions of moisture, etc., which render it liable to attack by the fungus *Rhizoctonia*, which seems to be present.

CLARKIAS DYING (D. K. T.).—The symptoms described suggest the attack upon the Clarkias of one of the fungi which cause collar rot—a species of *Fusarium* possibly. Probably treatment of the soil with lime would act as a preventive in future.

STACHYS LANATA IN WINTER.—(A. E. B., Bermondsey).—The Lamb's Tongue is usually quite hardy except on wet, heavy soils, but such woolly-leaved plants are generally susceptible to frosts, which will probably account for the plants dying in winter. This difficulty could be overcome by wintering a sufficient quantity in a cold frame. The plants should not be subjected to artificial heat and abundant ventilation should be given whenever the weather permits.

TRANSPLANTING MADONNA LILIES (A. Mithou).—If it is really necessary to transplant the bulbs of *Lilium candidum*, the best time to do so is about the middle of August, and the work can be continued until the latter part of September, but it should always be borne in mind that these beautiful Lilies resent interference and thrive best when left undisturbed. Should it be that the bulbs have not been flowering satisfactorily of late years suggest that, instead of transplanting, as much of the soil as possible be removed and replaced with a mixture of good loam, sand and bone-meal.

IRIS SIBIRICA (Felsted).—We have not experienced any difficulty with the Siberian Iris. It is generally a very accommodating plant—one that will thrive under a variety of conditions. The greatest success is met with when it is planted in good soil in a moist position exposed to full sunshine. It is an admirable species for waterside planting though it will also flower well in the hardy plant border.

ESTABLISHING BERGAMOT (Felsted).—If the true Bergamot (*Mentha citrata*) is meant, this should be quite easy to establish. It should be planted in an open position, in a moderately moist soil for preference, during February or March. The roots should never be allowed to become really dry. Although *Mentha citrata* is a native of Britain, it is a scarce plant in gardens. *Monarda fistulosa* is the wild Bergamot, and this is of easy cultivation in ordinary garden soil, but it is inferior as a garden plant to *Monarda didyma*. Either of the *Monardas* may be propagated by root division in the autumn or early spring, which also are the best times for planting.

TREES AND SHRUBS.

PROPAGATING THE DOUBLE POMEGRANATE BY CUTTINGS (N. W.).—Cuttings of this year's young growths are by this time fairly firm, and are ready for insertion now. Remove the shoots with a very thin portion of the old wood attached (termed a heel). Insert the cuttings fairly firmly in pots of soil composed of equal parts of light loam, leaf-mould and coarse sand, with a thin surfacing of fine sand to trickle in the holes when dibbling in the shoots with a pointed stick. Cover each pot with a bell-glass or place several pots under a bell-glass or hand-light.

LAYERING A WISTARIA (N. W.).—Layering may be done in pots as suggested provided our correspondent is able to elevate and fix them in suitable positions. The points selected for layering should be near the commencement of this year's new growths where by this date the wood is fairly firm. Fix the stems firmly in the soil with pegs and then give each growth a stake in such a position that there is a decided bend or twist in the stem to check the flow of sap. Remove the tops of the shoots. Always ensure that the soil in the pots is kept moist.

WINDBREAK FOR NORTH-EAST ASPECT (Felsted).—Both the white Poplar (*Populus alba*) and the two Willows (*Salix alba* and *S. caprea*) will stand a good deal of wind; while, as our correspondent suggests, the Hornbeam and Beech, though good for the purpose, are rather slow growing. Other suitable trees would include the Austrian Pine, Scots Pine, *Populus deltoides*, the Cornish Elm, the Wych Elm, Sycamore and the White-beam (*Pyrus Aria*). If the area is of moderate extent, we suggest the use of the Austrian Pine, White Poplar, Beech and Sycamore in mixture. Should a purely evergreen screen be desired, it might well be composed of Austrian Pine, common Spruce and the Evergreen Oak. If *Cupressus macrocarpa* thrives in the locality, it should be added in any case. As sturdy growth is required, the planting should be done as firmly as possible, and quite off distance should be allowed from tree to tree.

ROSE GARDEN.

ROSES (Felsted).—Jules Margottin is a tree-flowering and hardy Hybrid Perpetual Rose, and the same may be said of Dr. Andry. If they are given a dressing of loz. of nitrate of soda to the square yard now, repeating it a fortnight later, a second growth should be obtained with flowers in autumn. Dr. O'Donell Browne is a Hybrid Tea and more reliable in the autumn than the above. Joseph Hill is another and blooms freely. Single plants cannot always be depended upon to give the desired results, because individuals are liable to many mishaps. This is not the fault of the variety, however. The dwarf Polyanthas, Mrs. Taft and Jessie, are very free and continuous-flowering Roses suitable for bedding, but they are liable to mishaps. A frosty night will injure the young flower-buds, and the same thing may happen if they get badly infested with aphids. Frost did much damage this year early in June, and many varieties of Roses were injured.

THE GREENHOUSE.

PROPAGATION OF MESEMBRYANTHEMUMS (W. R. J., Cornwall).—*Mesembryanthemum* can be readily propagated by cuttings made of the growing shoots (not flowering shoots) and by pieces broken off from March to August. Use very sandy soil mixed with old mortar rubble and broken soft brick. A suitable proportion would be two parts fibrous loam and one part of sand, mortar rubble and brick. Place the cutting pots on an open shelf, not in a close propagating frame.

PLANTS FOR COOL GREENHOUSE (E. W.).—In addition to Geraniums, Ferns, Lilies and Hydrangeas, it is only possible briefly to outline a list of suitable plants. Put up now bulbs of *Freesias*, *Lachenalias*, Roman Hyacinths and Paper White Narcissi; also, in a few weeks' time, pot bulbs of *Daffodils*, Tulips and Hyacinths. During the summer, tuberous *Begonias* and *Euchsias* are delightful and worth cultivating largely. *Primulas obconica* and *Kewensis* flower freely in winter with very little heat. If the greenhouse is not large, root cuttings of *Chrysanthemums* in April and grow them to flower during the autumn and winter in 6in. (32 size) pots. *Aureolias* are fascinating small plants to grow in pots for the cool greenhouse. The *Chimney Campanulas* (*C. pyramidalis*), raised from seeds, *Bouvardias*, propagated by cuttings, *Indian Azaleas*, *Cytisus fragrans*, *Phyllocactus*, *Epphyllums*, *Clivia miniata* and *Cannas* may all worthily receive attention. "The Greenhouse and How to Make the Most of It," published at this office, price 11d. post free, would afford help as regards culture.

RETTARDING CINERARIAS (C. Scot.).—The most important details in the culture of *Cinerarias* are: (1)

Throughout their growing period cultivate the plants under cool conditions. In winter only give sufficient artificial heat to keep out frost. Now and in early spring a north frame or house facing north is practically essential. (2) Give the plants ample size pots, cramped (pot-bound) roots tend to force the plants to push up the flowering stems. (3) Do not crowd the plants at any period of their growth, and keep them near the roof glass. (4) Shade fairly heavily in spring if the sun is bright, but open the doors and ventilators wide, damp the floor and stages to keep the atmosphere cool. (5) If, as suggested, when potting plenty of space for soil is allowed provided the plants make ample leafage, only give liquid manure for the last month before the plants are required in full bloom.

FLOWERS FOR DECEMBER (C. W., Cheshire).—To commence now it will be necessary to rely largely upon bulbs for December flowering. Roman Hyacinths, Paper White Narcissus, double Roman Narcissus, *Daffodil* *Cervantes* and the *Cynthella* (*Miniature*) *Hyacinths* can all be obtained in flower during December with very little trouble if potted early in August. As our correspondent appears to have plenty of greenhouse accommodation, the *Duc van Thol* Tulips should be of value. Bulbs of the latter may be forced gently in a warm greenhouse during November. Retarded Lily of the Valley crowns, *Freestias* and *Lachenalias* would also be useful. A heated greenhouse filled with single and double-flowered *Zonal Pelargoniums* (*Geraniums*) would give an abundance of flowers to cut during December. There are also several annuals which could be sown now with every hope of a display of blossoms. Ten-week Stocks, including the Beauty of Nice varieties, *Nemesia stramosa* *Suttonii* and *Calendula officinalis* Orange King and possibly *Mignonette* if sown at once would be worth trying.

FRUITS UNDER GLASS.

VINES ATTACKED (A. W.).—Probably a drop of petrol injected into the holes which the beetles are boring would check the pest which our correspondent describes; but is it certain that the parts of the Vine attacked are alive, for it is very unusual for beetles to attack living active tissues of Vines in this way?

PEACH TREE NOT SATISFACTORY (Wood Dean).—It is just possible that the Peach flowers were damaged by a severe night frost; this has occurred in several cases during the past season. The transplanting of the tree may have caused a serious check, especially if the roots suffered at any time through lack of water. The small-flowered varieties are generally freer setters than the large. The variety Hale's Early sometimes fails to set well under glass, but rarely ever fails to do so in the open air. All Peach trees transplanted under glass should be allowed to grow slowly the following spring and with abundance of air during open weather. Peach Duke of York would suit you admirably; it is a strong grower, does not drop buds, sets freely, has large and very highly coloured fruits. Nectarine Humboldt, a grand variety, would prove equally suitable and satisfactory.

GRAPES ATTACKED (Usk).—Dust the leaves of the Vines with sulphur, or paint the pipes with milk of sulphur, in order to rid the Vines of red spider. Barron's Book on Vines is one of the most useful ever written on this subject. So far as we know, no varieties of Grape are more prone to attack by red spider than others. The fruit sent was immature. Please send mature fruit and a typical leaf for identification later on.

FRUIT GARDEN.

CATERPILLARS ON FRUIT TREES (J. N., Forfar).—The caterpillars attacking our correspondent's trees are those of one of the Tortrix moths or leaf rollers. It is almost impossible to do any good with lead arsenate spray at present, but it would be advisable to use it next year as soon as the petals have fallen. The best plan now would be to kill what caterpillars are found, and thus prevent the moths from developing and laying their eggs on the trees. Our correspondent would be well advised to spray his trees next spring just as the buds are showing green at the tips with lime sulphur at the rate of 1 gallon concentrated solution to 12 gallons of water. This will make for general cleanliness and freedom from pest attack.

KITCHEN GARDEN.

FRENCH BEANS AND IRISES ATTACKED (Iris).—The French Beans have been attacked by one of the soft rot bacteria allied to that which is causing the rotting of the Iris which is also sent for examination. In both cases destruction of the diseased portions and the treatment of the soil with superphosphate is called for.

MISCELLANEOUS.

THE DESTRUCTION OF ANTS (E. E. B., Sussex).—Make a hole in the nest of the ants and pour hot water into it, or a teaspoonful of carbon bisulphide, filling the hole up immediately afterwards. In either case the operation should be performed after dusk when the ants are at home.

HOW TO TRAP MOLES (N. P. H., Witley).—The best method is to set proper mole traps in the most used run which can be found. Do not handle the trap with the bare hand and fill in the run on either side of and around the trap, otherwise daylight percolating into the run will probably put the vermin on guard.

NAMES OF PLANTS.—"Stoke Prior."—Roses: 1, Dr. Van Fleet; 2, Edmond Proust. —E. M. A. R.—1, *Sedum ruberum*; 2, *S. album*; 3, *Achillea umbellata*; 4, *Geranium lancastrisense*. —E. F. W., S. Croydon.—1, *Spraea japonica*; 2, *S. bracteata*. —R. B.—*Achillea Ptarmica* fl. pl.—W. F. W.—*Ulmus montana laciniata*. —"Dorset."—*Orealis latifolia*. —"Canthos."—1 *Cacothus Indigo*; 2, *C. Gloire de Versailles*.

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IRISES FOR THE WATERSIDE

Abundant rains have ensured that the planting season shall be satisfactory.

THE only known species of Iris which really likes aquatic conditions in Britain is our native Flag, *Iris Pseudacorus*, but there are many others which, to do themselves justice, require abundant moisture. All these have somewhat sedge-like foliage which peculiarly fits them for the task of adorning lake or stream-side.

All Irises have sword-like foliage, but it is worthy of remark how this differs in character according to the cultural requirements of the plant. The truly aquatic common Flag has lush green swords which harmonise with those of other water-loving plants. *Iris sibirica* has quite distinct foliage but with the same bogland character. In the cultivated Japanese varieties listed as *I. Kämpferi*, a broader spread of leaf is noticeable, though the lush greenness is still discernible, but when we come to the rhizomatous Bearded Irises, the thin sedge-like foliage has become thickened, almost succulent, and the rich greens have become bluish or whitish greys. Speaking generally, the cultural requirements of an unknown Iris may roughly be made out from a study of the foliage.

The most suitable species of Iris for the wateredge might be tabulated like this:—

For shallow water.—*I. Pseudacorus*.

For wet ground, liable to occasional winter flooding.—*I. sibirica*, *orientalis* (and hybrids between these two), *ochroleuca*, *aurea*, also *I. x ochraurea* and *I. versicolor*.

For well cultivated and well drained ground, not subject to flooding, the *Kämpferi* Irises, *I. Monnierii*, *I. siphoides* forms (English Irises), *I. Delavayi* and the Gladwyn Iris (*I. frétidissima*) especially valuable for autumnal berried effect.

Of *Iris Pseudacorus*, so well known to all lovers of the countryside, there is little to be said except that it grows most vigorously when provided with shallow water the year round, but flowers under such conditions very sparsely. It may be induced to grow and flower well in any decently cultivated land, but probably shews to

best advantage on land subject to winter flooding, but which bakes hard and surface-dry in summer.

Iris sibirica, a European species, is very closely related to *I. orientalis*, an Asiatic. The latter bears larger flowers, indeed some selected varieties approach the cultivated *Kämpferi* forms in size, but the plants lack the easy graceful bearing of the

*sibirica*s and are apt to hide their flowers among the tips of the foliage. No species of Iris—and this is saying a great deal—is much more variable than *I. sibirica*, but a good form is, when in flower, a joy to behold. The grace and beauty of the plant is best appreciated when one sees an outlying clump with its abundant, almost grass-like, foliage far over-topped by the sheaves of wiry flower-stems each bearing a number of flowers and flower buds, not large but dainty. The typical blossom colour is some shade of rich purplish blue, but the variety Perry's Blue, which has, probably, *orientalis* blood, is almost certainly the nearest to true blue in colour of any Iris in cultivation. Even this beautiful form, however, has hardly the grace of the dusker-shaded forms. The so-called white form of *I. sibirica* is a semi-transparent looking dirty cream. *Iris orientalis* Snow Queen, however, though it has little of the *sibirica* habit, is a beautiful pure white variety, more worthy, in the writer's estimation, than any of the rather numerous coloured forms.

Irises *ochroleuca* and *aurea* are giant moisture-loving Flags which, in rich damp soil, often reach 6ft. in height. The former has flowers white at the margins but deepening to yellow towards the centre and blotched with yellow on the falls, and the latter blossoms of a deep rich golden shade. *I. ochraurea* is a vigorous and free-flowering hybrid between these two, and *I. Monnierii* is in appearance a lemon-yellow *ochroleuca*, but, though it likes rich soil, seems not to tolerate excessive moisture.

Iris versicolor is practically a New World form of *Pseudacorus*, with flowers, however, of a purplish cast, varying according to the type selected, from indeterminate washy mauves to purplish blues in somewhat the colour range of *I. sibirica* and including the rich red-purple listed as *I. v. Kermesiana*.

The colour range of the Japanese (*Kämpferi*) Irises is very extensive, but it is difficult to suggest a list of varieties, since the names of them are legion and it is often impossible to procure any



IRIS KÄMPFERI, VARIETIES NEPTUNE AND SNOWDRIFT.



IRIS KÄMPFERI MORNING MISTS.
Pure white, pale blue at the throat.



THE GIANT IRIS OCHROLEUCA 'N THE BORDER.

particular sort. White, lavender, red mauve, blue mauve, blue purple and red purple all are represented, and there are blotched, veined and edged forms in practically every tone of the colour range. In addition, there are two distinct types of flower in this Iris, the ordinary single forms with incurving standards and slightly reflexing falls, and the so-called double forms in which all the six components of the floral envelope reflex slightly to form an almost tabular flower. These latter always appear larger, but the single forms have more real beauty of outline.

The English Irises are bulbous, closely related, to the Spanish and Dutch (*Niphium*) strains, but the appearance of the flowers both as regards form and colouring favours rather the single Kämpferi forms. In rather stiff moist soil these Irises have a real distinction which none of the Spanish—no, not even the remarkable Thunderbolt—possesses.

Unfortunately, the English Iris has received, of late, less attention from the hybridist than have the Dutch and Spanish strains. As, moreover, the beautiful self-coloured forms always "break" sooner or later into often worthless mottled ones, it is not now easy to get together a really representative collection. On some soils the English Irises flower more freely than the Japanese. Although bulbous they do best when left undisturbed for several seasons.

Iris Delavayi is a tall species related to *I. sibirica* and *orientalis*, but of less easy culture. It seems to do best in soil not actually boggy, but with water at all times in reach of its roots. The flowers are dark purple, blotched white.

The dingy flowered Gladwyn, which covers the sand dunes on some of our coasts, needs little description. Its specific name—*fœtidissima*—is due to the unpleasant odour given off by the leaves when bruised. There is a yellow flowered form which, though not brilliant, is at any rate an improvement on the type. Both set seed readily and it is for these brilliant seeds which, in their split pods, always remind one of the burst fruits of the Spindle Tree, that the plants are grown. The variegated leaved form seems never to flower, so is worthless for autumn effect.

The present month is a suitable time to plant English Irises, though planted next month or in October they also answer well. Now that flowering is finished the Japanese Irises move well. Care should be taken not to transplant these during winter or it is more than probable that there will be a large percentage of losses. Spring planting answers, but is less satisfactory. Such tall Flags as *aurea*, *ochroleuca* and *Monnierii* also move well at this season, so do *versicolor*, *Pseudacorus*, *sibirica* and *orientalis*, though all these transplant fairly well throughout the usual planting season, except, perhaps in the dead of winter.

These waterside Irises all like moderately rich soil, so that well decayed farmyard manure—cow dung for preference—decayed leaves, etc., should be incorporated during the work of preparation. The Japanese Irises and others will not tolerate soil at all boggy, but should have the ground thoroughly well trenched for them as, however near the waterside, they may be planted, they will receive little moisture by capillary action if there is a hard dry pan just below the roots.

Given an adequate amount of moisture at the root, all Irises flower best if planted in almost full sunlight, so that half-shady spots around pool or at brook side should be reserved for shade-loving plants such as *Spiræas*, which, incidentally, form a pleasing foil, with their soft and somewhat rounded outline, to the stiff spiry Irises.

Lime, so essential to the Bearded Irises if drainage rot is to be avoided, is, as might be expected, inimical to the waterside species.

PROPAGATING ROCK PLANTS

The showery weather experienced since the last week in June has been favourable for propagation. There is still time to divide or to take cuttings of many alpines and other dwarf plants.

THIS is an excellent time to take cuttings of *Violas* of all sorts and such rockery species as *V. V. gracilis*, *cornuta*, *bosniaca*, *canina*, *calcarata* and *lutea*, are no exceptions to the general rule. The Grecian *V. gracilis* is a charming species, easy to grow, compact of habit and with lovely velvety purple flowers. It should be found in every rock garden, however small. The Horned Violet, *V. cornuta*, is a rampant growing and well known plant. It has nevertheless many virtues, being almost perpetual flowering and admirable for cut flower. *V. c. purpurea* is the most effective form of this, though the French grey and white varieties are also useful. *V. osiaca* is more uncommon than either, very easy;

Similar compost will answer for the nearly related *Onosmas*, but owing to the woolly surfacing to the foliage, great care in ventilation is necessary to prevent wilting and at the same time to guard against "damping off."

This is the season when, if one has the heart to do it, one may divide established clumps of those quaint South American *Oxalis*s. *O. O. enneaphylla* and *adenophylla*, the former from the Falkland Isles and the latter from the Andes of Valdivia. It is better to establish the divided pieces in pots and put out the resultant plants next spring. *O. enneaphylla* is generally supposed to like a shadier corner than the other species mentioned, but the writer has had them growing side by side

struck—division is better unless close attention can be given the cuttings until they are fairly rooted. The various forms of *S. oppositifolia* divide easily enough, but should be established in pots before planting out. The minute but related *S. retusa* also divides readily.

PERENNIALS FROM SEED

ON pages 137 and 138 there appeared an interesting article on the raising of alpines from seed, and several very useful "tips" were given on the treatment of various kinds to ensure the best possible percentage of germination. Always, on reading any article on this fascinating subject, I think how very useful it would be if all the known data of seeds which require special treatment were collected and published in book form. Seeds are, to my mind, one of the great wonders of creation, and much could be written of their infinite variety, beauty of form and the means adopted by Nature for their distribution, but what chiefly concerns the cultivator is how to coax them to germinate under artificial conditions after being dried and stored, which is contrary to Nature's way of sowing as soon as ripe.

Many of them which grow in almost any soil are wind-borne or carried to a distance by bird or beast; others which need a special soil for their growth tall near the parent plant, where they are certain to find their special need supplied. Books on the cultivation of the plant spring up like Mushrooms, but I know of none which deals entirely with the more interesting work of growing the plant from seed. The old hand generally has the memory well stored with information on the subject, but those of less experience and fewer opportunities treat all seeds much alike, and in consequence meet with so many failures that they soon get discouraged and give it up in despair. A guide as suggested above would go far to alter this and give to all a more equal chance of success. When seeds of an unknown or untried kind come to hand in sufficient number the grower of experience does not trust all the eggs in one basket, but tries in as many ways as seem necessary and notes results for future guidance; the inexperienced use one pan, one compost, and trust to luck. Personally, I have met with a few instances which may be worth giving.

Here, on a cool soil in East Surrey, *Tropaeolum speciosum* does well, and when visitors see a mass of it, perhaps rott. high, with its glorious trails of scarlet on an evergreen shrub, they at once want either seeds or roots. As disturbance of the roots soon destroys it, seed was usually given—and rarely grew, and I set myself the task of finding out why it failed. Experiment proved that quite a short period of drying killed the seed, and also that seed properly stored required a whole year before germination took place. I adopted the plan—by no means new—of storing the seed in damp soil. Drainage was placed in a pot and a small quantity of soil, then ripe seed as collected and soil was added until the pot was full. This was kept in a peach house, and the soil was never allowed to become dry until well on into the second winter, when the seeds began to vegetate and the pot was at once moved to even colder quarters. The mystery was now solved, and towards the spring the seeds which had not germinated were distributed packed in damp soil or moss with instructions for sowing at once near or under shrubs, where disturbance,



THE ALTOGETHER CHARMING CREAMY WHITE OXALIS ENNEAPHYLLA.

of rosy-mauve hue with just a hint of magenta. Good forms of the Dog Violet, *V. canina* are very beautiful. Of the colour forms a deep violet blue is the best, but a good albino is in commerce. The Dog Violet may be readily increased either from cuttings or by division. *V. calcarata* is a very variable plant and many forms are very weedy-looking in the garden. *Viola lutea* of our own Northern hills is a much better and more constant plant and quite easily propagated.

There is still time to take rooted cuttings of *Phlox subulata*, but the plants will not, of course, be as large next spring as those set out two months ago. The same remark will apply to *Aubrietias*, *Arabises* and *Alyssums*. *Lithospermums*, both the commonly seen prostratum forms and the even more beautiful *L. L. granifolium* and *petreum*, with the hybrid intermedium, increase fairly readily from cuttings of half ripened wood in pots or pans of *well* sandy soil in a cold frame. To ensure the sweetness of the compost it is well to add a little crushed mortar rubble. Most *Lithospermums* love lime. *L. prostratum* is not so particular, but it dislikes a noticeably sour soil.

in a sunny nook of the rock garden and in gritty soil. The equally beautiful autumnal flowering *O. lobata*, with yellow blossoms, if not already divided should now be left for another season.

The present season has favoured the growth of *Primulas* of every kind. This is quite a good time to divide the more or less auricula-like species, such as *P. P. Auricula*, *hirsuta*, *villosa*, *pubescens* and *marginata*. Frequent division or, where suitably placed, top-dressing is very necessary with the last named, the leggy habit of which is otherwise an eyesore.

Almost all forms of *Saxifrage* may still be propagated. The Mossy (*Dactyloides*) section may be divided under lights outdoors, or rooted from cuttings inserted in very sandy compost in pans or boxes in a cold frame. The latter is the better method if a large stock is required in the minimum of time. The enrooted forms may readily be divided so that a little root remains to each plant to be. The knife may have to be employed to effect this however. The turfed (*Kabschia*) forms may be carefully divided, retaining as much root as possible to each portion, or cuttings may be

of seeds or roots was unlikely. This proved quite successful in those cases where soil and situation were favourable to its growth.

Another case comes to my mind where a short period of dry storage of some tree seeds delayed germination for a whole year. My employer owned woods in East Kent in which the "Wild Service" tree, *Pyrus Tominalis*, known there as Chequers, grew. Although they bore fruit abundantly, self-sown seedlings were rare, and as increase was wanted I was requested to grow a good batch, and received a quantity of fruit for the purpose. When quite ripe the seeds were washed out and a part was sown at once and part kept and sown in the following spring. The autumn-sown seed germinated well in the spring, but that which had been stored and sown in March lay dormant for a whole year and then germinated, as well as the autumn-sown seed had done in the previous spring. Seeds of *Pyrus japonica* sown at the same time behaved in exactly the same way, thus proving that Nature's way of sowing is best when the seed can be protected from its enemies.

Shingle and the washings of compost from pots during watering would not appeal to many as an ideal medium in which to sow seeds, but the staging in the greenhouses here is entirely of iron and the corrugated iron beds are covered with this material, and it is found that many seeds germinate in it more freely than in ordinary compost. Seeds of greenhouse *Primulas* germinate like Mustard. Even two year old seeds come well, and form such a mass of roots that scarcely any check is given when transferring to pots. With *P. malacoides* I stand plants on it when ripening seeds, and obtain all the plants wanted without further trouble, and if any are left they grow and flower well, yet plants in small pots with less moisture often damp off. *P.P. obconica*, *kewensis* and *sinensis* come well, and doubtless others of this rather difficult class would succeed if tried. Many other greenhouse plants are self-sown in the same way. H. C. W.

ESSENTIALS OF GARDEN DESIGN

III.—PROPORTION.

IT is self-evident that the first gift necessary for anyone who aspires to be a designer—no matter what he may seek to design—is a fine sense of proportion. Some folk have a colour sense so refined that it is almost, if not quite, a nuisance to them, because it is so frequently shocked. Others have a sense of musical values far above the average and yet others that nice sense of perfect proportioning to which reference has been made. All these gifts are likely, in this workaday world, to cause their owners a large amount of inconvenience to counterbalance against any pleasure their proper use may afford but, applied, they are of the greatest use to the community.

It is, perhaps fortunately, quite impossible to impart a sense of proportion. One has the gift or has it not. Granted, however, a tolerably acute sense of proportion, some preliminary experience or tuition will be necessary before it can be applied to garden design otherwise than empirically. Accumulated experience has taught even those whose eye for proportion is most rudimentary that an oblong picture is, speaking generally, more pleasant to look upon than a square one. Experience has gone further, it has suggested that a frame to a picture or a panel of such a shape, that, with the addition of another

similar frame along its longer side, will outline a frame of the same shape as the original (Fig. 3), and, of course, twice its size is a very satisfactory one for many subjects. The proportioning of the adjacent sides in such a frame will be as the square root of 2 is to 1, or, roughly, 7 : 5. Such proportioning will, even so, need modification according to the treatment to be accorded to the interior of the frame.

Let it be thought that we are getting a long way away from garden design, we will hasten to point out that since, except from an aeroplane, we can never see the design of a garden from anything approaching the viewpoint depicted on a plan, this test of proportioning cannot be applied directly to a garden plan. It is quite possible, however, from plan and elevation to set up a mathematically accurate perspective and to such perspective we can, if we wish, readily apply our tests. Better still, we can visualise, if we have adequately

represented on our sketch the weight of the varying features (mainly trees, shrubs and plants), the completed picture from the viewpoint in question.

The garden architect often makes, for his own satisfaction, a perspective such as this of some specially important feature but, in general, long experience of the work enables him inwardly to visualise the perspective he is seeking to obtain and to draw his plan in such a way as to obtain it, for it must be remembered that it is equally feasible to draw a perspective from a plan or to plan a particular feature from a perspective.

Given *carte-blanc* to provide a pleasing perspective from one given viewpoint—preferably on a little elevation—it would be the easiest matter possible for anyone with a knowledge of plants and the gift of composition to draw a plan which, properly carried out, would provide it. A blank canvas, however, the garden designer, whether amateur or professional, never has. He

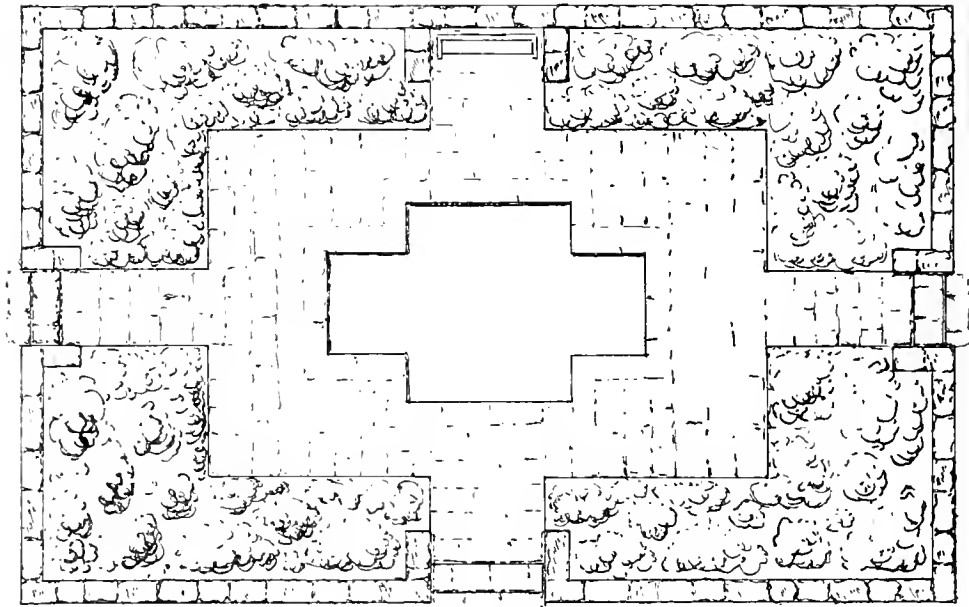


FIG. 1.—A satisfactorily proportioned pool; its proportions correspond to those of the sunk garden, of which it is the principal feature.

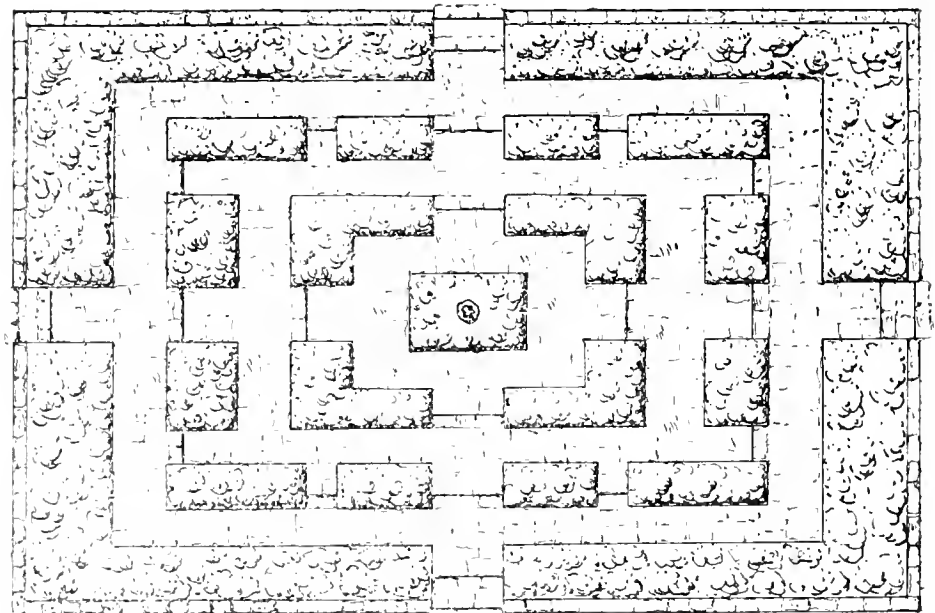


FIG. 2.—An arrangement of flower beds in which each succeeding series follows the outlines of the complete garden. This is a quite good but by no means necessary arrangement.

has usually to provide his effect within defined limits, often in a very confined space. Nor is this his only or, indeed, his chief difficulty. He has to provide not one picture but many on the line of vista originally in mind and also so to unify the vista in question with the rest of the garden scheme that many other charming views may be

out, a rift, one may well be too narrow. It is impossible to give any rule for path widths, but it may safely be assumed that a turf path in any

position should be broader than a paved one in the same setting, while a gravel one should be narrower still.

REGULATING THE FLOWER BORDER

BY GERTRUDE JEKYLL, V.M.H.

BESIDES the obvious duties, such as staking, weeding, mulching when needed, and watering when drought threatens, there are many things that have to be seen to if an important flower border is to shew its best. At intervals during the summer we go through it attending to the various matters that are the urgencies of the moment. Now, in the end of July, beginning at one end where the flowers are blue and white and pale yellow, the Delphinium bloom going fast to seed is cut down to about $4\frac{1}{2}$ ft. from the ground. A strong plant of Clematis Flammula planted some years ago and now in full growth is trained so that it will rest on the cut Delphinium stalks and form

pumilus. Though not tall, it is of a heavy, sappy nature; when heavy rain comes it is apt to be thrown down in a lumpy way that is difficult to set right. We therefore support it with the branching tips of last year's pea sticks. Now, in looking at it from a few yards' distance, the group looks a little too regular and formal. This is corrected by shifting a few of the bits of spray, and as the plant has now hardened into maturity, some of the flower-laden growths are pulled a little out to give more play and freedom to the outline of the group. The same thing is done with a nearly adjoining group of Chrysanthemum maximum, as the mass of white Daisy flowers, all nearly of a height and covering 2 sq. yds. of

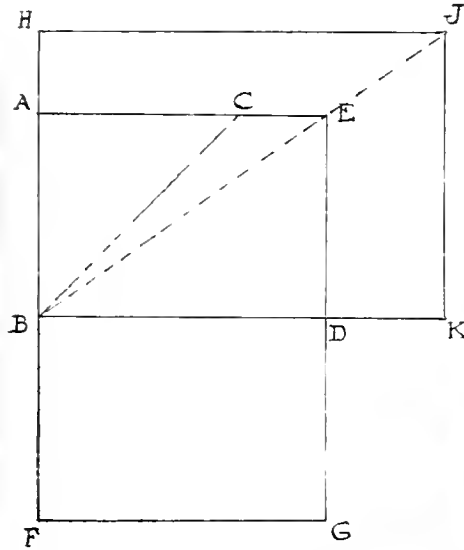


FIG. 3.— ABDE gives the outline generally approved as best proportioned for framing pictures of average subjects. Let AB be one side of the frame, the adjacent side to extend from B towards K. AC is marked off on the perpendicular from A equal to AB. BD is then made equal to BC. AFGE and BKJH are each double the size of ABDE and similarly proportioned.

obtained and that nowhere shall there be—to put it at its lowest—an entire lack of interest.

It has been remarked that a square picture or panel frame is unsatisfactory. To many it may seem strange, therefore, that square centre pieces are so much used in gardens. They are, in fact, employed to an even greater extent than circular or oval ones. The parallel actually is fallacious. From no conceivable viewpoint, except the air, does a square garden look square to the eye. The straight narrow rill now so popular represents a feature made picturesque by fore-shortening. This, it may be said, in passing, is a feature much overdone, since it is really effective only from one viewpoint; indeed, it often looks particularly banal and uninteresting when viewed from across its length.

There are a hundred and one details of proportioning which the novice can only decide by setting up a perspective, but the following hints may be of service. A very common and very pleasing feature in present day designs is a paved pool garden, the coping of the pool flush with the paving. In such a garden the proportioning of the pool should be the same as that of the garden itself if the planting be light, but, if heavy planting bound the garden, the edge of such planting should be taken to give the proportion. Fig. 1 will illustrate this point. The same point holds good with the arrangement of beds in a formal garden. The arrangement of the beds will be satisfactory if each successive sets of beds is proportional to the garden as in Fig. 2. The converse, however, is not true. A quite satisfactory arrangement of beds may be obtained which does not conform to this rule.

There is scarcely anything more important in the garden than the proportioning of the paths. In a small garden a 4 ft. path may be over wide. In grounds of some size, especially if broadly laid



THE FRAGRANT CLEMATIS FLAMMULA MAY BE TRAINED TO STOP GAPS.

a sheet of bloom over their place in September. Close by, that fine perennial Mullein, Verbascum Chaixi, now going out of bloom, is cut right down. It leaves rather gappy places at the base, but these are filled by plunging some pots of Hydrangea just in good bloom, and nothing is more useful for such a purpose. A little further along near the back of the border is a patch of the tall Helianthus orgyalis. If this was left to grow naturally it would shoot up to a height of 7 ft. to 9 ft. and bear a bunch of its pale yellow flowers at the top only. But we pull it down and peg it over some of the middle plants of the earlier summer, and it will develop flowers at every axil. Some of it is so tall that it nearly reaches to the front of the border and looks like some quite uncommon plant. A longish patch of Crested Tansy at the front edge, put there for the sake of its rich deep green foliage, must have the tips of its shoots pinched out for the third time; this keeps it to a foot in height and preserves the richly cut foliage in the best order. Just behind the Tansy is a long drift of Helenium

space, was too much of a solid patch. The border towards the middle of its length has a careful arrangement of Hollyhock, Dahlia, Camia and dark Snapdragon, and needs no present attention except that in one or two places where there was a gap a Dahlia stake has been altered to bring the plant forward to fill the empty place.

The biggest job was with a white Everlasting Pea of many years' growth and now a mass of heavy bloom. Its earlier regulation had not been taken in time, so that though it was supported with strong pea sticks it had not been properly divided and the growths separated. It was in one dense, heavy mass of bloom lying all together in one solid ridge. We drove in two stout Dahlia stakes about 5 ft. apart behind it and slit up a Phormium leaf in half-inch wide strips—a string would have cut the easily broken stems—and passed the band as nearly as might be half way, longitudinally through the mass of plant and pea stick, and drew it back carefully, separating the head part by hand, and made the ends fast to the stakes. Luckily, nothing was hurt, and

now the fine old Pea, instead of being a shapeless shell of crowded white, is suitably diffused and in good shape, and looks as if the newly released and separated blooms and branches were enjoying their restoration to air and light. The Pea is now, near the end of July, in full flower, but in another ten days will be going over. As it occupies a prominent place in the border and cannot be made to look well after blooming, a strong-growing hybrid Clematis planted just behind it will cover and hide it, and will make another sheet of bloom in the late summer. The Clematis is a natural hybrid that occurred in the garden: the parentage is evidently *C. vitalba* × *C. Davidiana*. The same cross has taken place in other gardens and, I believe, has been given a name, which at the moment I do not recall. Further in the border is a range of the purple-leaved Sage, whose quiet purple grey colouring is delightful with pink and purple flowers. It is being cut back, partly to allow of the dropping in of more Hydrangeas and also to promote its own young growth.

As to all these lesser cares of a flower border, some may say, "What a lot of fuss and trouble!" Yes it is, but then, *that is gardening!*

COLOUR EFFECTS IN THE FLOWER GARDEN

IT is difficult to give any absolute reason for the preference, but I think that others who give thought to using colour carefully will be likely to agree with me that one feels a disinclination to the placing in shady places of anything of very strong colour, and especially of any kind of red, and that in such places one would much rather have white or purple. Any opponent to this idea may quote the Foxglove, Rose Bay and Campion of the natural woody wilds, but I suggest that though it is pleasant to see these bright flowers, they do not promote that feeling of mystery which is one of the charms of woodland. In my own bit of copse a pure white Foxglove is rather largely grown, and beautiful if it is in the half light. Places are prepared for it in the winter among the Oaks and Birches; in some cases where there is an undergrowth of Bracken or Whortleberry, in others where there are those tangles of Bramble that the pheasants choose for nesting places. Two of the tall garden Campanulas are admitted to the wood, the white form of *C. macrantha* and the large-bellied purple *macrocarpa*; a lower one, *C. albanetolia*, is also used where the wood joins the garden. It is about 2ft. high and has a pyramidal form because of the taller central spike. It is suitable at the entrance to the wild because it is not a very common garden flower. For the same reason *C. persicifolia*, although in nature a true woodland plant, is not admitted to the wild ground; it is so familiar in the garden that it would give the impression of a garden plant gone astray. White flowers and foliage of deep glossy green are always pleasant together, and just now in the nearer garden ground there is a group of the white *Campanula macrantha* shooting up through several strong tufts of Alexandrian Laurel (*Ruscus racemosus*); the *Ruscus* just in the fresh deep green of its newly matured fronds.

I have no great liking in general for shrubs with variegated foliage, but in a wide flower border am glad to have a big bush of the gold Privet, the clear yellow of which is almost as telling as that of a flowering plant. Almost touching it and closely matching it in colour is a group of the fine perennial *Verbascum Chaxii*. The two, in close combination, form a splendid foil for some pale blue *Delphinium*. G. J.

SOME BULBS FOR AUGUST PLANTING

LEAVING garden Tulips on one side, which are more liable to suffer from the disease known as "fire" if planted too early, the earlier bulbs can be replanted the better, as a rule, will be the results, not only the following season, but in subsequent years. The softer the bulb the more it will shrink and lose substance if kept out of the ground. Really soft bulbs, such as *Erythroniums*, for instance, or Lilies, ought not to be kept out of the soil a day longer than is absolutely necessary.

The copious rains of July have made it certain that bulb planting will be practicable this month. Unfortunately, except on a very limited scale (and then by only the use of precious water), it was quite impracticable last year. Narcissi planting is a big subject and beyond the scope of an article such as this. [We shall hope to deal with Narcissi somewhat fully next week.—ED.] Leaving that important family on one side, the question then is: Which bulbs should be planted in August?

Among the most urgent, mention must be made of the Dog's Tooth Violets (*Erythronium*), so

are now a number of colour variations; some inclining rather to dull magenta shades, while flesh-colour and pure white are also represented. These are generally considered easier to grow than the American species but, in the writer's experience, this is not the case.

These American sorts are fairly numerous, as there are several species and a considerable number of varieties. The very best of these are probably *E. grandiflorum* Pink Beauty, with delicately poised flowers of a pretty pink shade, often zins across, and *E. californicum* White Beauty, which, quite distinct from the former as regards foliage, is very similar in everything but colour, as regards the flower. The flowers, of a charming creamy white shade, are seen when gathered to be orange at the base. The typical *E. californicum* is a pale yellow flowered species of considerable beauty. Other excellent kinds are *Hartwegii* and *Nuttallianum*, both yellow; *Hendersoni*, pinkish mauve with a deep crimson eye; *Johnsoni*, rose pink with a rich yellow zone, and *grandiflorum giganteum*, white with a brown zone, an easy and excellent plant.

Erythronium americanum, so common in North American woodland, has charming rather small yellow blossoms. Unfortunately it is not free to flower.

Fritillarias, very closely related to the true Lilies, should all be got into their permanent quarters as soon as possible. The Snakeshead or Meadow Fritillary, *Fritillaria meleagris*, is an indigenous species which grows freely in meadows in the Thames valley. The colour varies considerably, but is always either some more or less diluted shade of purple, heavily and quaintly chequered green or white, also green chequered. The white form has been so largely propagated that it is now as cheap as or cheaper than mixed varieties. It reproduces true to type from seed. If named varieties are wanted, *Orion* is a good deep coloured form and *Cassandra* a charming pale hued one having quite a silvery cast; both large. *Emperor* is a giant white with flowers more saucer shaped than usual and *Luna* a grand pure white sort. The Crown Imperials also belong to this family—*F. imperialis*—and should also be got



MOST BEAUTIFUL OF DOG'S TOOTH VIOLETS, ERYTHRONIUM PINK BEAUTY.

beautiful in woodland planting or on the half-shaded rockery. They all like a rather light compost quite free from fresh manure, but rich in decayed vegetable matter. They do not object to a light covering of fine Grasses or an overlating of Sedums or such like, which serve to mark their site and prevent their accidental disturbance. *Erythronium dens-canis* is the European species with, normally, flowers of a rather bluish-rose, but there

in as soon as possible. They dislike removal so should be planted in a position where they may remain for some years.

There are several very charming and unusual small species of *Fritillaria* which will delight the hearts of those who love the quaintly beautiful rather than the spectacular. Such are *F.F. pyrenaica*, *Thunbergii* and *coccinea*. *Pyrenaica* is olive green, mottled brown; *Thunbergii* green and

purple, with pretty grey foliage, and coccinea, almost scarlet.

Early-flowering bulbs of all kinds should be planted as soon as may be, including The Glory of the Snow, *Chionodoxa*, such early Irises

nor does the trouble end there, for it is quite possible for bulbous plants to flower quite well the first season after planting, but to fail subsequently because of unduly late planting. The beautiful dwarf blue Squill often used to edge flower beds, but



ONE OF THE EARLIEST BULBS TO FLOWER, IRIS RETICULATA VAR. CYANEA.

as *I. reticulata* and *Dantordiae*. Scillas, Grape Hyacinths, (*Muscari*), Crocuses and Snowdrops.

Of the Scillas, the Bluebells (*Scilla nutans*) and the nearly related Spanish Squills (*S. campanulata*) have rather soft bulbs and should on that account have preference. Late-planted Crocuses often seem to take little harm, but they are better planted none the less. Snowdrops, if kept out of the ground too long, not infrequently prove blind,

which may also be naturalised under trees and even in turf, is *Scilla sibirica*.

The Glory of the Snow, *Chionodoxa Lucilia*, provides masses of glorious blue flowers, when flower still is scarce in early spring. It is also excellent for naturalising. *C. gigantea* is less well known. The flowers are china blue, slightly paler in shade than with *Lucilia*, much larger and borne singly. *C. sardensis* is more like *Lucilia* in habit, but a darker blue.

COLOUR IN THE IRIS GARDEN

ONE of the excellent consequences of the growing popularity of Irises is that many gardeners are led to devote more attention to garden colour. Recent issues of THE GARDEN have contained many evidences of the search for suitable company for the Bearded Irises; here are a few notes for the amusement of those who, like the writer, enjoy playing the colour game with the wide range of Iris colour.

The most obvious associate of the Iris is the Lupin, and it is fortunate that just when the one flower is being transformed by the hybridist, the other should also be receiving increased attention. I wish someone who is familiar (as I am not) with the many varieties of Lupin now in commerce would study their colour and habit in relation to the best sorts of Iris, and would tell readers of THE GARDEN of their results. Here, for instance, is an elementary question: What is a satisfactory blue Lupin to grow in company with *Iris pallida dalmatica*, *Geranium ibericum platyphyllum* and Catmint? It may be that a sufficient answer is to be found in any packet of seed of the commonest blue *Lupinus polyphyllus*; yet I cannot help thinking that it is worth taking

the trouble to secure a selected form, and to propagate it, so that the group of plants may be uniform in height and colour. The very bluest Lupins are rather too blue to go with these pallida Irises; Prichard's beautiful *L. azureus*, which has a good deal of mauve in it, is about the right colour. This Lupin is also very good with that most free-flowering Iris, Sweet Lavender (*Bliss*; sent out by Wallace); and the deeper blue Lupin, Eureka (*Waterer*), can be added to this group, or planted with the purple *Geranium* and Catmint.

Other good Lupins of a purer blue that I have tried are *Waterer's Felicity* and *Admiration*. The former has the good quality of keeping its leaves in condition until late in the season, so that it can be put into a mixed border, if necessary, without its making an untidy litter; the ordinary *L. polyphyllus* generally becomes an unsightly ruin soon after flowering. The herbaceous Lupin which, so far as I know, keeps its leaves better than any other is Barr's variety *Nelly* (Barr, and *Waterer*). This is a white sort with a touch of clear mauve, and associates beautifully with Sweet Rocket and *Thalictrum aquilegifolium*, and with *Iris Alcazar*. I presume that this is one of the sorts with some Tree Lupin blood in it.

The clear yellow herbaceous *Lupin Sunshine* (*Waterer*) takes up the colour of the yellow Tree Lupin and of *Iris Flavescens*, and is much fresher in colour than the other herbaceous yellow sorts that I have tried; those with a tinge of ochre in them are not satisfactory.

There is, I think, a tendency to get the colour of the new Lupins too complicated and muddled. The so-called "shot" effects, now so easily obtained in Lupins, are not often a success in this flower. Can anyone tell me of a silvery-leaved Tree Lupin of really good constitution and effective flower? I want one which combines the good qualities of *argenteus* and *arboreus*.

But to return to Irises. I had long been puzzled to find the right foils for the subtle colour of Irises *Prosper Laugier* and *Jaquiniana*. *Iris Flavescens* and the pale yellow Tree Lupin used to be the best I could do; but this year I found what seems to me a much better arrangement. Instead of the clear pale yellow, which in bright light kills the sombre smoky colour of *Prosper Laugier*, I put the cool washed-out rose of *Deutzia elegantissima*, and backed that with *Rosa rubrifolia*. *Iris Dawn*, which is very pale yellow in effect, took the place of *I. Flavescens*. I feel sure that if you try *Prosper Laugier* with this *Deutzia* you will agree that the Iris has a good chance of showing off its rare, subtly compounded colour.

There is sometimes a difficulty in finding the right sort of pink flower to relieve the blues and yellows of the Iris garden. China Roses are good, and so are the cool pink—not the salmon pink—later-flowering Weigelas. The pink Lupins, *Pyrethrums*, *Thrifts* and *Pinks* and the pink *Columbines* are all available, and I think the pink *Deutzias*, such as the beautiful one I have mentioned, might well be more commonly used. A very good white *Deutzia*, by the way, is *D. Wilsoni*, certainly one of the most beautiful of its race.

Someone suggested the other day in these columns that Irises would look well with Azaleas, but I confess this does not appeal to me. The associations of the two families are so different, for one thing: the Azalea seems to call for half-shadowed woodland spaces (such as one sees it in at South Lodge), whereas the Irises remind one rather of their own parents, the species that one has seen growing wild on hot hillsides in the South. And there is the further point, apart from all questions of horticulture, that the Azalea's characteristic range of colour includes many oranges and flaming reds that are too warm and, so to speak, too insistent to associate well with the Iris colours. That, at least, is how it strikes me: I admit that I have not actually tried the planting suggested. No! for this particular purpose I shall stick to the cooler range of colour. The shrubs that get admitted into my Iris garden will be such as *Solanum crispum*, *Abutilon vitifolium*, *Rosa Willmottiae*, *Honeysuckles*, and the early Clematises, e.g., *C.C. montana*, *pi. rubens*, *Spooneri* and *Spooneri rosea*, *Fair Rosamond* and *Mrs. Cholmondeley*. Try *Rosa Hugonis* with *Solomon's Seal* and *Dielytra*, or with *Rosemary*, *Cytisus praecox*, and blue *Columbines*.

But I see I have got out of the Iris garden altogether, so I must stop. A PAINTER.

FORTHCOMING EVENTS.

August 14.—United Horticultural Benefit and Provident Society's Meeting.

August 15.—Clay Cross Horticultural Society's Show.

August 16.—Derbyshire Agricultural and Horticultural Society's Annual Exhibition (two days).

August 18.—Royal Horticultural Society of Perthshire Exhibition (two days). Eastbourne Horticultural Society's Meeting.

PLANTS FOR A SMALL MORaine GARDEN

(Continued from page 375.)

SILENE ELIZABETHÆ.—This uncommon Silene has not been a success. One or two plants raised from seed, and also purchased plants, never seemed to become properly established, although living through two or three winters, and eventually died out without flowering. *Silene Hookeri.*—This, the outstanding beauty of the family, has not been tried. It seems to be very rarely offered for sale, and when it is, is usually sold out when applied for. *S. acaulis*, *S. a. excapa* and *S. a. alba.*—The dwarf green cushions keep compact on the moraine and the plants flourish, but if they flower at all it is very sparingly. *S. acaulis alba* flowered fairly well in May of this year, and seems to do better in this respect than the types, which rarely flower at all. Last year, however, one of the plants had a few flowers on in August in a position away from the moraine facing north, where it is being tried. *S. laciniata Purpusii.*—This species with its brilliant red flowers, would be most useful, flowering late when flowering plants are badly needed. Unfortunately, it has been found difficult to keep with me. The damp and frost of the winters set in rot in the somewhat woody stems at about the ground level. It seems to flourish in a friend's garden only a short distance away in a more sheltered position, having come up annually for the past three or four years. *S. alpestris.*—This dainty white-flowered species is only too much at home. Tending to run into other plants, it has to be placed in more unrestricted quarters. The double form *S. alpestris fl. pl.* might prove more suitable and last longer in flower for those who like double forms; that is if it does not revert back to the type, as it seems to have a tendency to do in one or two gardens in which I have seen it.

Soldanella pyrolifolia is probably one that Farrer acquired on one of his expeditions in the Eastern Alps, and one which may have rewarded him with its pretty flowers better than other members of this dainty flowering family do in a good many of our gardens. *S. alpina* and *S. pusilla* appreciated moraine conditions so far as to become well established, but as they never flowered in the fully exposed position they were tried in a more shady situation, with the result that *S. alpina* has flowered for the last two or three years, but *S. pusilla* and *S. minima* have failed to flower as yet. *S. montana* is a much more vigorous plant than those previously mentioned, and given suitable conditions with other soil than the moraine usually provides flowers quite freely.

Thlaspi limosellatolium.—This is another rare species which does not appear to be found in catalogues. It is a family, too, that is very rarely represented in gardens. Seeds were taken by me

of what is probably *Thlaspi rotundifolium* under the Matterhorn two years ago, and some of the plants raised appear to be quite healthy, but have not flowered yet. *T. Keeneri* has very dark green rosettes. Seedlings planted recently are growing away well and, "winter permitting," should flower next summer.

Veronica canescens.—This appreciated the conditions too well. It was moved to other parts of the garden, where a little of it still exists, but it has almost been lost owing to the damp winters and very dry springs, especially the latter, as it depends on a certain amount of moisture for its revival, and once nicely set going it will run a considerable distance in a season. I am inclined



A BEAUTIFUL LAVENDER-COLOURED ALPINE, SOLDANELLA ALPINA.

to think it is hardly worth its place, the pale blue flowers not being particularly interesting.

Viola censis has not been tried by me, nor have any of the *Violas* on the moraine. It is possible that some lovely high "Fell" pasture forms of *Viola lutea* may be tried.

Wahlenbergia punilio.—This lovely dwarf pale Bluebell flower is very happy and well worth its place, and once established stands the winter exposure without any protection. The only drawback is that the flowers are all out and over in a week or less, especially if it is dry, hot weather at the time. *W. dalmatica* and *W. tenuifolia* are interesting and in this position very free flowering. *W. serpyllifolia major* seems quite easy with its large lovely "Purple Bells" very freely produced but, unfortunately, short-lived. *W. Vinciflora* is somewhat different to the others, the delicate blue flowers being thrown out on wiry, pendulous stems. It is a continuous flowerer

and especially lovely in an overhanging position. Unfortunately it is liable to be killed off in the winter months, although plants have gone through two or three winters in the somewhat bleak climate of these parts.

Wahlenbergia punilio completes Mr. Reginald Farrer's "fifty" plants for the moraine. A few notes of other families that have been tried may be of interest, some of which have only come into our gardens since his list was published.

Acantholimon glumaceum and *A. venustum.*—Both plants have fine hard green cushions, the latter greyer and very prickly. Both are acquisitions and appear to prosper in an exposed position. The flowers of *venustum*, which are clear rosy pink thrown well out from the cushion in racemes, are especially beautiful.

Of the Sandworts, *Arenaria cæspitosa aurea*, with its bright yellow foliage, provides a very good colour contrast and brightens the moraine up in the "off" season. It is much less aggressive than the rampant *A. cæpitosa*, which should not be included on any account. It also provides a good position for a few dwarf Crocuses, the flowers easily penetrating the somewhat loose sand. *A. purpurascens.*—This Spanish species, with its close foliage and lilac flowers, is useful and easy to keep to its place. *A. tetraquetra* forms a neat hard tuft of somewhat peculiar foliage, with white flowers, interesting without being specially striking. *A. verna.*—This beautiful native is well worth a place, with its deep green grassy foliage and dainty white star flowers and should be planted in a limy position for preference. Beware of *A. balearica*, which will run over everything and what is more, very few plants can push through it; it is a thorough nuisance and once established (quite easy in moraine), it will be a difficult matter dislodging it.

Armeria cæspitosa, a charming dwarf Thrift from the mountains of Southern Spain, with its compact rosetted clumps and pale pink flowers, is an indispensable. I appear to have two forms, one with dark green foliage, which is usually covered with flowers, the other with finer and brighter green leaves and which has not flowered anything like so freely.

Daphne petraea.—This dwarf and beautiful *Daphne*, from a restricted portion of the Maritime Alps, appears to be "settling" down and at present looks quite healthy, but it has only flowered sparingly; I am hoping it will flower more freely when thoroughly established. The moraine seemed to me to be a suitable place for this very dwarf shrub and I may say that a few other "small" shrubs have been included, some of which will be mentioned later, all evergreen and mostly with darker foliage than the plants and thus providing some colour contrasts.

The more compact *Erodiums* or "Crane's Bills" provide beautiful foliage plants, with *Geranium*-like flowers, which in some of the species are continuous for most of the summer if kept from seeding. Among the best are *E. chrysanthum*, with pale yellow flowers. *E. corsicum*, a very pretty compact free-flowering species. *E. Richardii*, a dwarf running plant with dainty white upstanding short-stemmed flowers. A variety with rosy pink flowers was seen at the Edinburgh Botanic Gardens last September, which is a valuable addition. *E. supracanum* is one of the prettiest, with its lovely "lenny" foliage and rosy pink flowers freely produced.

Of the *Gentian* family only three have been tried on the moraine. *G. acaulis*, which did quite well, but as it does even better in more ordinary conditions and flowers very freely, it has been moved from the moraine altogether. *G. excisa*, tried on two occasions, but never got over the effects of winter rain and frost, the continuous disturbance through

frost and thaw causing the plants to rot off near the crown.

G. verna.—This lovely native does best with me on the moraine, two plants bearing seventeen and twenty-five to thirty flowers last May; the larger flowered plant had glass protection above for a good part of the winter and not only flowered better than the one unprotected, but had larger and greener foliage and much larger flowers. I have had as many as seventy flowers on the larger clump, but owing to the moraine in the portion in which it was planted (the deepest portion), not having been properly consolidated, it had to be disturbed and in doing this it was found that the thread-like rootlets penetrated down to the sand in the bottom and were about 3ft. in length, partially suspended in mid air owing to some of the filling having "settled" away. This

disturbance checked the plant, but it seems to be recovering. It is quite possible to raise small plants from the flower rosettes of this *Gentian*. Some time ago some wild collected flowers were placed in a saucer with damp sand in the greenhouse so as to keep them in flower for a time, but my mother promptly pinched the flowers off and most of them rooted in a very short time.

T. ASHTON LOFTHOUSE.
(To be continued.)



THE GOLDEN BLOSSOMS OF FREMONTIA CALIFORNICA.

CORRESPONDENCE

A FINE POLYANTHIA ROSE.

THERE is a little bed on the lawn, containing eight plants arranged in a circle—plants of the wonderful dwarf Polyantha Rose *Ellen Poulsen*. Everyone who looks out of the window or walks round the garden notices it first of all. The vivid hue and gorgeous mass of blossom compel them to do so. Peerless and irresistible, it is the most intense and joyful spot in the whole length and breadth of the garden. I suppose that it has some leaves—indeed, I know that it has—but all of which one is conscious in the way of green about it is the turf that surrounds the bed. Its height averages about 18ins., and it is remarkable how "even" the growth is; while the flowers . . . mass upon mass of cherry rose, large and full and free. The colour is one that at once penetrates and compels attention and satisfies the eye.—CROYDON.

ROMNEYA COULTERI GROWING THROUGH A WALL.

THE photograph was taken in July at Perriton Mead, near Minehead, the property of Mr. C. S. Orwin of Balliol College, Director of the Institute for Research in Agricultural Economics

at Oxford. Originally planted five years ago 3ft. from the slate and rough earth wall, which is 21ins. wide, in 1921 shoots appeared at a lower level through the wall; and this year there are on that side about three dozen such shoots, 4ft. to 5ft. long, with blossoms 7ins. across. But a but-tress immediately in front of the original plant, which faces east, caused the penetration of the wall in a south-easterly and downward direction. A somewhat similar instance, but on a smaller scale,

of the Californian Poppy sending shoots through a wall appears in the charming garden of my friend, Mr. N. G. Hadden at West Porlock in the same district of Somerset.

At the entrance to Perriton Mead I was allowed by the gardener, Mr. Parkman, to inspect two fine and tall shrubs of *Fremontia californica*, a brilliant

yellow flowered Californian plant rarely seen in this country. Like the *Romneya* in its land of origin it is interesting as being the only known example of its genus. It belongs to the Sterculiacee, one of the Malvales group of families. The deep yellow blossoms are 2ins. or more in diameter; the egg-shaped fruit is densely clothed with yellowish hair, and the lobed leaves, often smaller than the flowers, are thickly coated beneath with short grey stellate hairs, which give them an ashen appearance.—H. STUART THOMPSON.

"AFFECTED" GARDENS.

I AM sure all lovers of flowers for their own sake must agree with Anne Amateur's letter on this subject (July 8 issue, page 333). If gardeners would study the welfare of each individual plant, giving it the position that is most suited to its taste and follow, in the general design of the garden, the natural suggestion of the soil—making paths take the course that would be followed by a stream (the line of least resistance); and studying the wild shrubs and plants of the neighbourhood as a guidance in selecting what garden varieties to grow, we should see more beauty and less vulgarity in some of the gardens laid out during the last ten or fifteen years. That gardens can look affected is bad enough, but that flowers should be forced to look vulgar is unpardonable. I have seen lately several fairly new French villa gardens and anything more sad in the way of distorting and insulting Nature I hope never to see. One is on the side of a hill and consists of small round beds made level with minute paths and surrounded with narrow paths of stone; each bed contains a Turner's Crimson Rambler Rose as a centrepiece and is encircled by a row of crimson *Godetia*, after which each bed



ROMNEYA COULTERI GROWING RIGHT THROUGH A GARDEN WALL.

has a border of highly coloured annuals. At one corner there is a modern, most grotesque well-head, large enough for the courtyard of a chalet, with wrought-iron top and rope complete (a standard pipe from the waterworks being within sight). On the ledge by the well-head are two life-sized china animals, a white cat and a black and tan terrier. The whole garden is partially enclosed by a belt of shrubs, mostly variegated; I suppose the whole atrocity occupies about half an acre.

Half a mile from this distressing sight there is an old house standing in a garden of about the same size as the other and surrounded by a high wall. This, mercifully, has been bought by a woman with garden knowledge and, still more important, a love of nature. Finding it in a neglected state she has cleared away the useless old Currant bushes and ugly stunted shrubs, keeping a few old fruit trees and the lovely old vines on the stone west wall. In the flower beds that are in half shade—that most blessed of positions for most plants in a temperate climate—Carnations and *Alstroemeria* revel in the warm sandy soil, Sweet Peas grow 7ft. high without manure, and annuals sow themselves between the larger plants, the whole giving a blessed feeling of tranquillity, sweetness and simplicity. There is nothing new in this. I suppose there have always been these contrasts between those who feel with and, naturally, copy Nature and those who misunderstand and contort her. But there are also those who follow a fashion blindly and unthinkingly, and it is they usually who produce the effect of affectation when they try to design a new garden or alter one of mature growth, and for them, because they sin unconsciously, there is hope. The modern craze for stone paths, stone walls and rock gardens is a terrible pitfall to many. I have in my mind a small garden that, being in a peaceful valley not far from the gas works and the railway, has the battlemented appearance of being constructed to resist a determined siege at any moment of the day or night.

I feel sure that the majority of affected gardens have been designed on paper and constructed as a whole at one time, this doing away with the pleasure of discovering new possibilities as the owner becomes more intimate with the garden through living in it. This rush for completion is, of course, the spirit of the age, and is hard to combat, but defeats itself as far as gardens are concerned, for nature is slow and a garden must grow; it cannot be made.—*ETHEL CASE, Sarum.*

FLAVOUR IN MUSHROOMS.

IN this strange autumnal July, with a frost in the small hours of its last day, even here in the Garden of England I have for some days past been engaging in my annual "Feast of Mushrooms"—quite a month earlier than usual and have had enough to satisfy even *me* (about a pound a day all to myself!).

I have this season, for the first time, had an opportunity of comparing the flavour of wild field Mushrooms with those grown from cultivated spawn in bricks. The latter were obtained from those celebrated seedsmen, "Messrs. Swank and Selfpraise"—shall I call them?—(who finds the cap fits may wear it). The first and largest Mushrooms came from the turf Mushroom pits, where the cultivated spawn had been inserted, and they are continuing to yield a fair crop. A day or two later I had some smaller wild field Mushrooms, and the third cooking contained some of each. I must, as a connoisseur of Mushrooms, unhesitatingly record my verdict, that there is absolutely no doubt that the wild ones are far and away superior in flavour to those grown from Messrs. S. and S.'s bricks. The latter, though larger, are lacking in

flavour and also have far too much tasteless and tough "white kid glove" on the top towards the centre, and scarcely any gills underneath near the stalks, while the wild Mushrooms from the meadow have much thinner white integument and more depth of gills and are vastly superior in flavour.

Perhaps while writing on this topic I may note that some old writer (I think it is Evelyn, but am not quite sure), notes that "donkeys' dung is the best for growing Mushrooms," so possibly some of the credit is due to my donkey "Sally," who "thinks she is a person and doesn't know she is only a donkey," as a dear little niece of Mrs. Busy Bee once explained to the other children when visiting us at Blackbird Bungalow.—*ANNE AMATEUR.*

[If "Anne Amateur" would spawn some of her pasture from the source she mentions and would compare the produce with the wild field Mushrooms, she might probably find less difference than she does at present though, unquestionably, some of the finest flavoured (red stalked) Mushrooms seen to be cultivated.—*ED.*]

A "PALM" IN FLOWER.

I ENCLOSE a photograph of *Cordyline australis* in flower here on June 21. The tree is now 17ft. high. I have had it about fourteen or fifteen years and it has never flowered before. That it



CORDYLINAE AUSTRALIS FLOWERING IN KENT.

has done so this year is, I presume, the result of the roasting it got last summer? It is well sheltered from north-east winds by a Lime tree. A Persimmon tree here has also set several fruits for the first time.—*A. C. BORTON.*

A REMARKABLE ANEMONE.

A WELL flowered specimen of *Anemone glaucifolia* from the Edinburgh Royal Botanic Garden was exhibited at the monthly meeting of the Royal Caledonian Horticultural Society on August 1, and was awarded a cultural certificate. This Chinese species attains a height similar to that of *A. japonica*. The flowers which are pale blue are somewhat globular in shape. The leaves are much serrated, reminding one of those of *Francoa ramosa*. If one may judge by this plant, the specific name is not very felicitous,

as the colouring of the foliage is more bronze-like than glaucous. It is believed to be the first specimen of this species to be flowered north of the Tweed.—*CHARLES COMFORT.*

[This is the plant which recently received a first-class certificate from the Royal Horticultural Society as *A. glaucophylla*. It was figured in THE GARDEN for July 8, page 331. The certificated name, as altogether of Greek derivation, certainly seems better.—*ED.*]

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Onions.—Seed may be sown this month to serve two purposes, if necessary. First, to provide suitable material for salads and useful small bulbs for kitchen use during autumn and winter; and, secondly, to provide bulbs for using the following summer and autumn. For the former purpose space the drills about 10ins. or 12ins. apart, and this will also be enough for the latter if transplanting is done the following February and March, otherwise the drills should be 15ins. apart. If sowing is done where the crop has to mature, the plot should be prepared accordingly. Growers who have to deal with cold soils and find that the spring-sown crop cannot be finished and ripened up as it should, ought to make the best possible use of the advantages offered by autumn sowing.

Leeks and Celery of early plantings should be attended to as required and according to the purpose in view. Whatever method of blanching or earthing up is practised, see that the plants are in an even state of moisture before carrying out the work.

The Flower Garden.

Amaryllis Belladonna, more popularly known as the Belladonna Lily, is one of the most beautiful of the hardy flowering bulbs. Planting can be carried out now and until the early autumn, but, to secure good root establishment before winter sets in, the sooner planting is done the better. Choose a position having a southerly aspect on house, wall or building, and see that it is a well drained one. Among the bottom layers of soil incorporate old manure, and use some coarse sand and gritty compost around the bulbs when planting.

Dahlias.—These having made and still making rapid growth call for attention in staking and tying to give them the necessary support during their flowering season. Do not allow the plants to be too crowded with shoots, removing all weaklings, particularly from the centre of the plants. Should earwigs prove troublesome, invert some small pots on the tops of the stakes, having first placed a little moss in the bottom of each one. In this way the regular destruction of the earwigs as they congregate among the moss will soon clear them. Another way of trapping them is to place Broad Bean stalks cut into suitable lengths among the plants, into which the earwigs readily enter and can be destroyed.

Fruit Under Glass.

Strawberries.—The potting of those intended for early work under glass, if not already seen to, should be pushed forward as rapidly as possible, for by the end of the month even the late batches should be in their fruiting quarters if it can be managed. The main compost for the final potting must be good loam, and to each cartload of this may be added three barrowloads of dried horse droppings, one of old soot and one of wood-ash. Bone-meal may be added if desired at the rate of a bushel to the cartload, or a coarser bone manure be used by sprinkling a thin layer above the drainage of each fruiting pot. Firm potting is absolutely essential, and the plants must be regularly dealt with as regards syringing and watering according to weather conditions. Should the weather be very hot and dry when potting is in progress, the plants may, for a couple of days, be allowed to recuperate a little in a somewhat sheltered place, but they must then be placed in full sun and light on a firm ash or gravel bottom and left there until the time comes for removing them to their winter quarters.

Early Peach Houses.—Where time can be spared for the work it is indeed well spent to give attention to the early fruiting trees of Peaches and Nectarines as they are cleared of their fruits. Should heavy crops have been carried and the trees be not too gross in growth, continue to water the borders regularly with copious supplies of liquid manure, and thus assist the trees to build up good fruiting wood for another season. Cut out all old fruiting wood that can be spared so that light and air may have a freer access for the necessary ripening of the new wood. Should red spider have obtained a footing, thoroughly drench the trees several times with a good insecticide until it is got rid of, after which one good syringing each evening with clear water will keep the trees in a healthy state.

The Hardy Fruit Garden.

Early Apples, such as Gladstone and Irish Peach, are practically of no value for gathering and storing, but require to be used as ready, direct from the trees. It will be necessary to give protection from birds, or the damage they commence will soon be made much worse by the insects following them.

H. TURNER

(Gardener to the Duke of Northumberland),
Aibury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Beet.—Do not allow the early sown globe-shaped sorts to remain in the ground after they have attained a good size, as they readily become coarse and stringy. Lift and store in sand in a cool position, when they will be found to keep in usable condition for a lengthy period. Keep the hoe going among later-sown sorts.

Potatoes.—When lifting early sorts, tubers of the size suitable for seed should be laid aside and placed in shallow boxes. Allow them thoroughly to ripen before finally storing in an airy loft or shed.

Turnips.—Make a final sowing of a quick maturing sort on an early border. Sow thinly and encourage a quick growth so that nice tender roots may be had during late autumn.

Saladings.—Sow regularly quantities of Mustard and Cress, and Radishes both of the long-rooted and turnip-rooted sorts. Encourage Lettuce by copious waterings of liquid manure and tie up the Cos varieties to assist in hearting.

Onions.—During the next week sowings should be made in sheltered quarters for spring and early summer use. One of the essentials in wintering this crop is that the ground be well drained. To sow on ground that is damp or sour is to court failure. More especially is this so in northern gardens, where heavy rains and severe frosts prevail during the winter and spring months. Give the surface of the seed-bed a generous dressing of wood-ashes, working it well in with the rake. Sow in lines 12 ins. apart, using the Tripoli type for the purpose.

Parsley.—When thinning late sowings a quantity of the young plants should be pricked out in a spare frame for winter supplies.

The Hardy Fruit Garden.

Apple Trees.—When summer pruning it is essential that the operator know the difference between ordinary growths and fruit-bearing spurs, meaning the short, sturdy growths which terminate with a fruit-bud. It is noticeable that many varieties, such as Worcester Pearmain and Irish Peach, produce a goodly portion of their crop on growths of this description. Naturally, the indiscriminate removal of these causes disappointment next season. Sufficient extension wood should be retained on all young trees, and any necessary thinning of fruits have attention. Where the trees are suffering from attacks of aphid they should be thoroughly syringed for a few evenings, using the garden engine for this purpose.

Fruit Under Glass.

Melons.—Plants growing in frames still require careful treatment, particularly so as the fruits approach maturity; neglect in this respect often causing loss of flavour. Close the frames early in the afternoon, and reduce the moist conditions hitherto allowed. Thin out any superfluous foliage that is likely to prevent the sunlight reaching the fruit. As the fruit begins to ripen leave a little air on, both day and night.

Grapes.—In vineries where the berries are colouring, additional air should be allowed at both top and bottom, reducing it considerably

at night according to weather conditions. All unnecessary lateral growths should be removed, so that the maximum of light and air may reach the fruiting wood.

The Flower Garden.

Climbing Plants growing against walls should be regularly attended to as regards water, as, owing to their position, even the heaviest rains fail to reach their roots. To assist growth liquid manure should also be given, while a moisture-retaining mulch of short litter will also be beneficial. In dry situations red spider is often troublesome, but may be checked in time by judicious syringings with a reliable insecticide.

Daffodils.—Where the bulbs of these were lifted after flowering, opportunity may be taken now to have the bulbs planted in their flowering quarters in woodland or shrubbery.

JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock

GREENHOUSE AND CONSERVATORY.

Freesias.—If a batch is required to flower at Christmas, they should be potted up without further delay, for Freesias cannot be hurried and must have cool treatment at all stages of their cultivation. It is true they may be gently forced if required for a special purpose, but it is always at the expense of the plants and also the quality of the flowers. Freesias enjoy a light rich compost, some dried cow manure rubbed down fine, or old mushroom-bed manure is excellent to add to the potting compost. They are best grown in 5 in. or 6 in. pots, putting ten to fifteen corms in a pot. The pots should then be stood in a cold frame. They should be well watered and then heavily shaded until they show signs of growth. The shading keeps them moist and does away with the need of frequent watering, always an evil in the case of bulbous and tuberous-rooted plants until they have made a quantity of roots. Some cultivators cover the pots with ashes or leaf-soil, but I do not advise this method, as the young growths are often weak and drawn if by some chance the covering material is not removed in time. Some support is essential before the growths fall over, for if this happens they never quite recover from it. The many beautiful coloured varieties are becoming increasingly popular, and require the same treatment accorded Freesia refracta and its varieties. Freesias raised from seed sown during March should now have well filled their pots with roots, and will benefit by frequent applications of diluted liquid manure and weak soot water.

Lachenalias form another beautiful genus of South African bulbs worthy of more general cultivation. They should be potted up some time this month. Where home-grown stock is available the largest bulbs should be sorted out for potting. Smaller bulbs should be placed in pans or boxes, and if well grown should make good flowering bulbs for next year. The larger bulbs should be potted in 48-sized pots, placing six or eight bulbs in a pot. They enjoy the same cultural conditions as advised for Freesias, doing well in cold frames until such time as their flower-spikes appear, when they may be removed to a cool, airy greenhouse. During February and March special care is required in applying ventilation, as cold draughts disfigure and injure the foliage. Although there are quite a number of species, very few of them are in cultivation, the most popular and useful being *L. tricolor* and its varieties, also *L. pendula* and *L. Nelsoni*, a garden hybrid. The latter is very beautiful and probably the most popular with the average cultivator.

Bulbs for Early Forcing, such as Roman Hyacinths, Paper White Narcissus and Duc van Thol Tulip should be potted up or placed in boxes some time this month. Success in forcing such plants depends very largely on their being well rooted, hence the importance of early potting, so that they have plenty of time to develop a good root system. Where quantities of Roman Hyacinths and Tulips are required for decorative work it is just as well to put the bulbs into small boxes. The flowers can then be cut in quantity, or the bulbs may be lifted from the boxes as they come into flower and used for filling suitable receptacles for use in the dwelling-house. If pots are used, 5 in. is large enough for the Hyacinths and Tulips, putting five bulbs in a pot; while Paper White Narcissus will require 7 in. pots. Stand the pots at the bottom of a wall and cover with ashes that have been exposed to the weather for some time, or leaf-soil may be used for the purpose. When growth begins to appear through

the top of the soil the plants should be removed from the covering material and stood in a cold frame, one with a north aspect being best for this purpose until such time as they are required for forcing.

Lilium candidum.—The Madonna Lily can be successfully grown in pots for the cool conservatory, but it must be potted some time during August, for this Lily commences to make its growth soon after flowering. One good bulb should be put into a 7 in. pot. As this is not a stem-rooting Lily, it is not necessary to leave room for top-dressing. Good medium loam with the addition of a little leaf-soil and sand should be used; also a sprinkling of lime or basic slag, as this Lily is a lime lover. Stand the pots in a cold frame, and give plenty of air at all times; in fact, cool treatment right throughout is the secret of success in growing *L. candidum* in pots. It is, of course, essential to start with healthy bulbs.

Royal Botanic Gardens, Kew.

J. COULTS.

Alpines at the Grand St. Bernard, Switzerland

"BUT now you have come so far," said genial Professor Chodet in the midst of his dissection of Colchicum bulbs at the Garden Lunca, "you should really go on to the Hospice of the Grand St. Bernard and taste the hospitality of the monks. Only six hours from here by the post cart."

And so, at 7.0 a.m. I registered myself as a parcel and started with the letters for that famous Hospice—and a grimmer, more desolate road I have never seen. Vegetation was scant, though *Saxifraga caesia* was in abundance at sides of the road and so were the faded leaves of *Gentiana lutea*, and so were the faded leaves of *Gentiana lutea*, and so were the faded leaves of *Gentiana lutea*, and so were the faded leaves of *Gentiana lutea*, I found, near the river, *Gentiana germanica* of an ugly red mauve.

Soon we were beyond the snow line. No more trees, nothing but grim rocks and thistles. A peasant girl was busy cutting the latter and carrying them home in sacks to boil down for the pigs. The postman told me that all through the winter he goes on skis thrice weekly to the monastery, as there is no other way of reaching it. Even in August the little valleys are full of snow.

Once arrived at the Hospice all sense of loneliness vanished in the clamour of the dogs of St. Bernard and the chatter of some hundreds of Italian tourists who had crossed the frontier.

After seeing the chapel and library, I was taken to the Prior's garden, which he and a "brother" amuse themselves by making! It was really pathetic! After climbing like a goat over and round boulders for two or three hundred feet one comes upon a little ledge with pitiless rocks on three sides. Here is a small bed of earth, carried up, a basketful at a time, by these two patient monks, and a few pockets of soil, and one can just get round the tiny path. The plants have been collected on the mountains in the near neighbourhood and must be of an astounding hardness to survive in such a severe climate, which kills any man who stays at the Hospice more than ten years, even though he be of a mountain race, which is a *some qualification* of the brotherhood. Here were growing *Viscaria alpinum* (rose), *Doronicum grandiflorum*, *Potentilla grandiflora*, *Achillea nana* (hybrid, very pretty), *Geum reptans* (yellow), one or two rare specimens of miniature Willows (*Salix aurita* & *reticulata*). The exquisite little cushions of *Androsace alpina* (jewelled with pink and white), and the "heavenly" blue *Myosotis pyrenaica* were side by side.

They and the beautiful *Hugueninia lancifolia* (yellow) were the most attractive flowers out, but *Cerastium arvense* and *Silene exscapa* were

lovely too. Delphinium elatum was over, but Papaver rhæticum showed a few flowers. Geranium rivulare was also over, but Aconitum paniculatum was in purple bloom, and Erigeron uniflorus.

A hundred feet or so higher up the "brother" had made a tiny bed in the form of his initials, S. B., edged with rocks, and here were growing happily Primula farinosa, Gentiana imbricata and the beautiful Campanula Scheuchzeri, such a glorified edition of our Harebell, but in richer colouring.

Lower down, near the gloomy little rock-bound lake, the white Ranunculus was to be found and among the stones at side of road were Hieracium glanduliferum, Leucanthemum alpinum, Achillea moschata, Silene rupestris and Saxifraga stellaris.

And there, said my guide, waving his arm across the guarded frontier towards Savoy, lies "Paradiso, full—full of the most wonderful flowers and strictly preserved as a hunting domain."

To reach the Grand St. Bernard one takes the train from Martigny (near Lac Lemani), as far as it goes. Then one hires a vehicle which in six hours takes one to Bourg St. Pierre, where the famous alpine garden La Linnee was founded by M. Corréon, and which contains 25,000 different plants. A few Gentians, Aconites and the beautiful Pyrenean Valerian are all that can be seen in August, but the place is a liberal education to a rock gardener. A somewhat comfortable night in a very old Swiss Inn and an early start either on foot or by the post cart as a parcel! The more comfortable way is by motor.

The prospect of a night spent in that gloomy place, even with three hundred Italian trippers, did not attract me and I gladly accepted the offer of a seat in a luxurious Mercedes car as far as Martigny. The most wonderful drive. To descend 8,000 ft. in two hours! From bitter cold to the intense heat. From glaciers to grapes. A. M. M.

that it shall be a merry one. I should be the last to join issue with advocates of deep and thorough cultivation for this crop, since I look upon deep friability, associated with proper firmness, as the best preventive of mildew either in a dry or a wet season, but I am ever ready to question the wisdom of those who advise, and personally use, excessively heavy dressings of natural manure.

There is no doubt that heavy manuring encourages big plants with large leaves, but these latter are not nearly as valuable as those perhaps only three-quarters of their size but of deeper colour and infinitely finer texture, and the reason is simply that the smaller, harder foliage has a finer power of performing essential functions. As supplementary to the best possible mechanical culture I recommend moderate quantities of natural manure and concentrated fertilisers in the spring, after the first crop has been harvested, with basic slag in the second and third autumns on soils where it is known from previous experience to be advantageous. One secures thus a thriffter plant with superior crowns, and it is on these that we must depend for our yields of Strawberries.

If it is compulsory to plant immediately after working, special attention must be directed towards firming in advance of planting, but when an interval of round about three weeks can elapse, as it ought always to do, between the operations all land, except that of very light nature, will have settled down naturally to the desirable point, provided that in the planting itself the soil is packed solidly to the roots. Some discretion is, of course, necessary in this matter, as packing a strong soil too firmly when it is on the wet side may easily carry one too far in a direction which, under considered judgment, is invariably desirable and beneficial. It is superfluous to add that the dibber should never enter into the Strawberry planter's simple tool equipment—all work should be done with a handfork or a trowel, the former for preference, and there ought to be a small ball with the roots if it is within the bounds of possibility. If the site is dry when the task must be accomplished, a state of affairs which one ventures to think improbable this year, the individual positions for the plants should be very thoroughly soaked a few hours in advance, as this is conducive to vastly better results than planting first and watering afterwards.

Distances both in and between the lines vary considerably in accordance with the opinions of different growers and with their knowledge of the growth of particular varieties in their own circumstances. Many gardeners favour 18ins. in all directions to prevail through the three yearly cycle, but while this is too much for the first season, it is commonly insufficient for the second and third years with modern varieties on the majority of soils. Another favoured spacing is 15ins. in all directions for the first year, each alternate row and each alternate plant in the remaining rows being cut out for the second and third years. Then there comes the system under which the rows are set at 30ins. asunder and the plants at 15in. in them, but in this case autumn Onions should always be planted between the rows for the first year with a view to ensuring that full value is derived from the ground utilised; when the Strawberries have cropped once, each alternate plant in the rows must be struck out.

A final word. Spare no efforts which will go to finishing all planting by or before the end of August. The soil is then about at its warmest, and with the pleasant moisture provided naturally or artificially the roots will be encouraged to secure a quick and excellent start, a condition of affairs that goes far to favour a big return in fruit in the first season and, of course, in the subsequent years also.

W. H. LODGE.

STRAWBERRIES IN THE GARDEN

This is the time to lay down the foundation for the Strawberry crop of next season. Time always flies fast, and that which passes can never be overtaken. Decide, therefore, what ought to be done and do it at once with all your might.

BEFORE the whole of the Strawberries of one season have been harvested the grower must commence preparations for the crop of the following year. There must be thought of those plants which have yielded three, two and one burdens, and still other thought for the youngsters which have to be planted to give their first welcome returns in the ensuing summer. While it is certainly possible to plant until the end of September, and even somewhat later in a specially favourable season, and still secure a return in the next year, there is no gainsaying the fact that cultivators who aspire to the production of a really heavy bulk of excellent quality must see that the work is accomplished by the end of August. Again, the quarters which are entering upon their second and third years of bearing may be dealt with much later than this, but the burdens will be considerably prejudiced the longer the necessary tasks are delayed after the present moment.

EXHAUSTED BEDS.

Save in exceptional circumstances plants which have borne three crops may be regarded as having reached the end of their useful lives, and should therefore be grubbed to provide space for something that will give a comparatively more profitable return. Nevertheless, it is wise always to bear in mind that in strong land that was thoroughly prepared and has been intelligently cared for subsequently, and in which the plants have had the attention in summer, autumn and spring which they demand, a fourth crop can be secured. It is not suggested that it will be equal to one, two or three year old beds, particularly in respect of fruits of conspicuous individual merit, but the bulk will be heavy and admirably suited for preservation in bottles or as jam because of evenness of size and firmness of flesh. However, the safe general rule is to uproot all plants which have cropped thrice.

It may be mentioned in passing that after the site has been efficiently hoed to ensure the total removal of weeds it becomes ideal for Broccoli to stand through to the spring, as there is enough food and so solid a root run that the vegetables are not encouraged to that grossness which leads to so many losses during bad weather in the first and second months of the year.

FRUITING BEDS.

Although it is more than probable that one year old plants give the finest individual fruits, those two years and three years old should be, and will be under careful treatment, capable of developing heavy weights with excellent individual specimens. It is necessary that the residue of all mulching material shall be instantly removed as the initial step in cleansing. This done, clear off every leaf that shows the slightest indication of rustiness or is hardening to that state of crinkliness which may be accepted as indicative of small power to assist future progress; at the same time every runner that is not earmarked for a definite purpose will go too. This done there must be perfect weeding as well in as between the lines, and, finally, forking over to encourage the free admission or invigorating fresh air to the soil. When the trimming up is carried to the last degree, as ought to be the rule, the general appearance of the beds will be on the bare side for a brief interval, but the plants will be enabled to build up those splendid crowns which we confidently regard as promising fine crops in future.

As regards plants which have fruited once only, if the planting distance was 15ins. all ways, each alternate row and each alternate plant in the remaining rows should be struck out in soils that are notably adapted to Strawberry culture; while if the original space was 30ins. by 15ins., each alternate plant in the row must be grubbed. The result will be 30ins. in all directions for the second and third seasons of profit, and it is not too much under the best of management. In nearly all instances where the soil is on the strong side an October dressing of basic slag at the rate of from 1ozs. to 6ozs. to the square yard will prove markedly beneficial.

NEW BEDS.

It is in the preparation and planting of these that by far the most important work of August lies, because one is not then taking full advantage of a previously laid admirable foundation, but putting down the foundation itself in such a manner that it will prove efficient for a period of not less than three years. This, it will be generally agreed, is a comparatively brief life, and proceeding on that assumption growers in private gardens have not hesitated for an instant in deciding

THE UNHEATED GREENHOUSE ON A WARMER SEABOARD

A correspondent experiences a difficulty which is probably shared by other readers, and that is to ensure, with only an unheated greenhouse in a locality favoured, as far as temperature is concerned, a supply of plants and flowers during autumn and winter.

UNDER such conditions it should be possible to grow a number of interesting and decorative plants which would be impossible elsewhere. It will be a comparatively easy matter to maintain a suitable temperature; the principal cultural difficulty will be in regard to atmospheric moisture, which is generally excessive on the western seaboard and consequently detrimental to plants in flower. The simplest method of dispelling excessive atmospheric moisture is by affording gentle artificial heat and at the same time opening the ventilators as widely as circumstances permit. With the unheated glass-house this is impossible, so careful attention must be paid to prevention, and, with this end in view, the gardener will, naturally, exercise the greatest care when applying water. Throughout the autumn and winter, when flowers are most required, plants may often be safely left unwatered for considerable periods, and advantage can be taken of sunny days then to afford water, so that a fairly dry atmosphere will be ensured by nightfall. If the floor is paved or tiled it should be mopped up, and as much ventilation as possible should be given at the time of watering. It should scarcely be necessary to say that during the autumn and winter watering should be done in the mornings.

In such a greenhouse as that under consideration there should be no climbers trained to the roof, as these have a tendency to induce a moist atmosphere by restricting the free circulation of air. The flowering plants, in particular, should be allowed ample space—overcrowding always leads to damping and decay of the foliage and flowers, as well as militating generally against their well-being.

For our correspondent's purpose flowering plants will, naturally, be the more important and be grown in the greatest proportion. Chrysanthemums, which, we learn, are already grown most satisfactorily, are very important, and their season can be extended by growing a goodly number of such late-flowering decorative varieties as A. J. Balfour, Bertha Lachaux, Bronze Cheer, December Bronze, Docteur Enguehard, Framfield Pink, Heston White, Mlle. L. Charvet, The Favourite, Tuxedo, White Queen of the Exe and Winter Cheer. In an average season these may be safely left outside until the larger-flowered November sorts have finished flowering.

In the greenhouse of mixed plants it is rarely wise to attempt the cultivation of the Perpetual-flowering Carnation, as, under such conditions, they are not often wholly satisfactory, but if a few are greatly desired the following sorts may be grown: White Enchantress, Lady Northcliffe, May Day, Aviator, Beacon and Triumph.

By potting them as early in the autumn as possible quite a number of spring bulbs may be had in flower towards the end of the winter, but early potting is very essential. Other bulbous and allied plants which will be of value include the brilliant *Vallota purpurea*, which is often so beautiful in cottage windows in the West Country and *Imantophyllum*, better known in gardens as *Clivia*, and of these it will be found that *C. miniata* will flower first and be followed by the greatly improved varieties. *Lachenalia Nelsonii* is useful, especially in that the flowers last a

considerable time. *Primula kewensis* is quite easy to manage and will produce plenty of yellow flowers throughout the winter.

There are several *Begonias* which, if grown out of doors in a sheltered half-shady place during the summer and brought into the greenhouse in the autumn, will continue to bloom for a very long time. The best sorts are *B. fuchsioides* and the *B. semperflorens* varieties. The improved strains of *Streptocarpus* are almost perpetual flowering, so seeds of these sown in the spring will provide plants that would flower well in the autumn and onwards. *Bouvardias* are also valuable for winter cut-flowers, and with an unheated greenhouse it would be best to grow them in pots during the summer, rather than to plant them out and lift them in the autumn. The pot plants can well be plunged to their rims in an ash-bed during the summer to keep the roots cool and moist. *Coleus thyrsoideus* will commence to open its beautiful blue flowers towards the end of January, and the plants may be grown similarly to the *Bouvardias*.

Well-budded *Azaleas*, both of the *indica* and the *Mollis* sections, may be had in flower towards the end of the winter, and although *Camellias* are quite hardy in the West, they are also useful for the unheated greenhouse, while the fragrant *Daphne indica* should also be included.

Generally, annuals would not flower early enough for our correspondent's purpose, with the exception perhaps of *Mignonette* and *Acroclium roseum*, which, if seeds are sown in August, will flower early. If labour and space permit, a deal may be done by growing the earliest hardy shrubs, such as the *Prunuses*, *Pyruses*, *Forsythias*, *Magnolias* and *Viburnums*, in pots. If such are well rooted and placed in the greenhouse early in the winter they will flower considerably in advance of their normal season.

SOME EXCELLENT ANNUALS

(Continued from page 386.)

OF the Love-in-a-Mists, *Nigella Miss Jekyll* seems still to stand alone, but she has a very dwarf colleague, called "double dwarf," which is really excellent for the front of the border or for edgings. Rich dark blue with just a hint of purple, each flower almost like a miniature *Clematis*. *Nigella hispanica atropurpurea* can hardly be called a Love-in-a-Mist, for the flowers are quite devoid of the characteristic "misty" greenery. *Gilia capitata*, like a large-growing *Sheep's Bit Scabious* (*Jasione*) next claims attention; then the curious *Androsace*-like *Leptosiphons*, *aureus* and *androsaceus*. Many varieties of the showy annual *Toad-flax*, *Linaria maroccana*, are under trial. Easily the most attractive is the brilliant "crimson and gold," but the deep carmine rose variety called "pink" also is very attractive.

Yonder patch of brilliant colour can only be the *Crimson Flax*, *Linum rubrum grandiflorum*, one of the really indispensable annuals. Near-by is the brilliant golden *Bartonia aurea*, while those masses of cloudy mauve represent *Asperula*

azurea setosa. Here is *Centranthus macrospilot*, more compact than the perennial *Valeriana*, and beyond rows of rosy-pink and white *Hawkweeds* (*Hieracium*). Those cousins of the *Groundsel*, the annual *Senecios*, are but just coming into flower, but they are cheerful little plants, even though their range of colour does run in bluish tones of pink and red.

Of many sorts of *Coreopsis* under trial, *Drummondii* and *coronata* are the most brilliant, and these, like the more or less perennial *C. grandiflora*, are excellent for cut-flower.

Here are the *Cornflowers* in pink and white and glorious blue, and beyond them the pigmy forms, called respectively *Victoria Blue* and *Victoria Rose*, the latter quite showy and attractive. That species yonder with more spreading habit and larger flowers of a deeper blue than the *Cornflower* we all know and love, is *Centaurea depressa*, the "King of Bluebottles." As we pass quickly on we notice the quick to flower *Acroclium*s, very pleasing "everlastings"; *Kaulfussia amelloides*, excellent edging plants, in blue and crimson; and that quaint and tiny prostrate *Sunflower*, *Sanvitalia procumbens*.

The large patch of *Sweet Sultans* in their several colours are waiting sulkily for finer weather, but the bright-eyed annual *Chrysanthemums* stand soldier-like in rain or shine. Of these the most noteworthy seem to be *Coronaria Coronet*, with a distinct white zone, and *Coronaria double yellow*, which always makes one wonder as to the value of the slow-to-flower *African Marigolds*. Very excellent are the mixed strains of these annual *Chrysanthemums*. A glorious patch of yellow near-by denotes the proximity of the beautiful *Corn Marigold*, *Chrysanthemum segetum grandiflorum*. It would be easy to write columns on other specialities under trial, but these notes are already overlong; so we will pass over the *Ornamental Grasses*, the "Japanese flower-garden" mixture and the mixed seeds generally. We will neither stay to enthuse over the brilliant blue annual *Anchusa*, nor the blue and pink *Clarys*. We cannot, however, refrain from remarking what an excellent foliage plant is the *Giant Hemp*, *Cannabis indica*; and a line must be spared to point out the decorative possibilities of the *Red Mountain Spinach*, *Atriplex hortensis rubra*. With two dwarf annuals, the well named *Oxalis Cloth of Gold*, and the minute *Ionopsidium acaule*, we must conclude these notes, merely remarking that the very complete *Antirrhinum* trials elsewhere in the grounds are alone well worth some little expense and trouble to see.

The Reading trials are carried out on shallow, very light, hungry soil, full of stones and over a subsoil of clean gravel. That annuals can be grown so well upon it should be a great encouragement to those would-be growers who are troubled with shallow, hungry soils.

A Chinese Hemlock *Tsuga yunnanense*.—It has been known for some years that a *Hemlock Spruce* or *Fir* grew in Central and Western China, collectors having sent home dried specimens. More recently Mr. E. H. Wilson, collecting on behalf of Messrs. James Veitch of Chelsea, has succeeded in introducing it into our gardens. Previous to the advent of this plant only three species of the *Hemlock Spruce*, natives of the Old World, were grown in this country, namely, *T. Brunoniana*, from the Himalayas, which can only be grown outside in the milder parts of the British Isles, and the two Japanese species, *T. diversifolia* and *T. Sieboldii*. Compared with the two last-named species, the leaves of the Chinese plant are much brighter green, also larger and not nearly so closely arranged on the twigs as in *T. diversifolia*. Another marked difference is that both of

the Japanese species have blunt-pointed leaves, which are silvery white beneath, while in the young plants of *T. yunnanense* they are green beneath and taper to a point. Whether these characteristics will disappear with age remains to be seen; certainly in a young state the plants are very distinct. The Tsugas are useful subjects for lawn specimens of moderate size. The Old World species are not so tall in growth as their counterparts in the New World, of which the best-known tree is the North American species, *T. canadensis*. Some authorities include the Tsugas as a section of the genus *Abies*.

A Useful Clematis.—That showy, late-flowering *Clematis*, *C. joumiana*, is of particularly vigorous habit, and is well worth growing in gardens where autumn-flowering plants are encouraged. Its origin appears to be something of a mystery, though it is probably a hybrid. Some of its characters suggest that *C. Davidiana* is one parent, while *C. paniculata* or a form of *C. Vitalba* may be the other. It has been distributed as a variety of the Himalayan *C. grata*, but is distinct from that species. Forming strong, sturdy branches, it attains a height of at least 12 ft., bearing large, deep green, five-parted leaves, which are somewhat like those of *C. Davidiana* in shape. The flowers are borne in clusters from the leaf-axils and points of the shoots, the upper half of each branch thus forming a large inflorescence. Somewhat similar in shape to the blossoms of *C. Davidiana*, but not tubular, the flowers in this case are white in colour, stained with violet on the outer sides of the segments. The flowering ends of the branches die back each year; therefore a certain amount of pruning is necessary in February in order that the centres of the plants may be kept free from dead wood. It thrives against a group of rough posts, a trellis, or over an old bush, and is of decorative appearance in either case. Like other species, it succeeds in loamy soil, and is benefited by a fair amount of lime.

A Fine Catalogue of Gardening Books.—

It is pretty generally known among book collectors, librarians and literary workers in horticulture that the Massachusetts Horticultural Society possesses what may be fairly described as the finest library of its kind in the world. Altogether it contains about 22,000 volumes, and in addition there is a unique collection of about 11,000 nurserymen's and seedsmen's catalogues, going back to a period of 150 years or thereabouts. Nearly fifty years have elapsed since the last catalogue of the Society's library was published, and there has now recently been completed a new issue which is a volume of the greatest bibliographical importance from the horticultural standpoint. Part I of this invaluable work was issued a few years ago, but the catalogue in its entirety has only recently been completed. It forms a well printed, nicely arranged large quarto volume in dark green cloth. There are 587 pages in double columns, the authors' names being printed in heavy type. Part I is devoted to an alphabetical list of authors and titles, the arrangement being very full, for we get, first, author's name, followed by the title of his work; then size, number of pages, if illustrated, place of publication and date, with such other additions as may be needful in various cases. The contents of this part may be summarised as follows: Preface, Explanation of Abbreviations and Signs, Authors' Catalogue, Additions, Further Additions. Part II is the Subject Catalogue, the contents of which are, briefly, Table of Subjects, Subject Catalogue, Corrections, Index. There can be no doubt that everybody who has an interest in horticultural literature has, in this remarkable catalogue of a very comprehensive and valuable library, a work

of reference the like of which does not exist anywhere in the world. The information it contains is invaluable, and every book collector, journalist and literary worker in horticulture will find it an immense help if he can place it upon his bookshelf with his other reference books. The price is stated to be \$10, and the work can only be obtained from the Librarian, Massachusetts Horticultural Society, 300, Massachusetts Avenue, Boston, Mass., U.S.A.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

HOLLYHOCKS DISEASED (L. M. S., Chester).—The cause of the trouble is one of the rust fungi. It is not likely seriously to injure the plants. Hand-pick the lowermost leaves and burn them. As soon as flowering begins to go off pull the plants up and burn them.

ANTIRRHINUMS ATTACKED (G. B. B., Twickenham).—The Antirrhinums are attacked by a species of Botrytis which has destroyed the stems just below the flower-spikes. The plants were in all probability weak through some cause, or possibly dead corollas had remained on the plant, and in the damp weather they had been attacked by the fungus, which had, as often happens, spread thence to the living tissues. This fungus forming resting bodies on the dead tissues, and all such diseased material should therefore be burnt. It is difficult to suggest any really effective measures for the control of such a fungus, but probably the best is to give ample space in order to allow air free play among the plants.

REPLANTING DELPHINIUMS AND LUPINS (C. B. W.).—The best time to transplant Delphiniums and Lupins is during September and October. In order to get as fine spikes as possible special attention should be paid to the border, particularly for the Delphiniums, which delight in a rich, well worked soil. Slugs often attack Delphiniums during winter and early spring, so their depredations should be guarded against.

SWEET PEAS UNSATISFACTORY AND OTHER QUESTIONS (E. F. P., Penrith).—The Peas are probably adversely affected by the presence of water too near the surface. If means can be devised for getting rid of the surplus water and a dressing of lime can be given, we think Peas should succeed with our correspondent. In addition to Primulas of many kinds, our correspondent might grow *Trollius* sp., Ferns of many species, some *Spiraea*, *Phloxes* (if not too shady), Irises, such as *Sibirica*, *orientalis* and *elysiographes*, *Saxifraga peltata* and *Lysimachias*. Dusting sand moistened with paraffin along the rows is the best preventive against carrot fly.

BULBS DISEASED (W. S., B. S.).—The diseased bulbs should be carefully picked out from the bulk and burned and the healthy ones should be steeped in a solution of formalin, 1 part to 200 parts of water, for two hours and dried before planting.

THE GREENHOUSE.

TOMATOES ATTACKED (H. J. R., Cornwall).—The Tomatoes are attacked by black spot. All the diseased fruits should be removed and buried, and care should be taken that the watering is quite regularly done so as to avoid the danger of causing the cracking of the skin of the fruit. This is to be done to a considerable extent by watering at weekly intervals with sulphate of potash, ½ oz. to 1 gallon of water.

FRUIT GARDEN.

FIG TREE ATTACKED ("Fir").—There are two fungi on the Fig shoots, the one forming red pustules called *Nectria cinnabarina*, the other with grey patches, *Botrytis cinerea*. Both have gained entrance into the shoots through wounds, and avoidance of wounding is the most important measure to adopt. Probably also the soil for the flower border has been manured, and the trouble has doubtless been aggravated by this treatment.

FRUIT UNDER GLASS.

GRAPES UNSATISFACTORY (Miss L., Somerset).—The Grapes (Black Hamburgh), as well as having been attacked by mildew, show evidences, in the form of "pitting" and shallow sunken areas, of unhealthy conditions. Our experience is that where the range of temperature has been too wide and where the heat has not been properly controlled Vines become weakened and readily susceptible to disease. Syringing with too cold water and ineffective ventilation also predispose to disease. Our correspondent would be well advised to pay close attention to cultural details as a general safeguard. The rods, after pruning, should be thoroughly drenched with a solution made by dissolving 1 lb. of copper sulphate in 25 gallons of water. This should be applied towards the end of November.

KITCHEN GARDEN.

POTATOES UNSATISFACTORY (M. B.).—Our correspondent does not give us any particulars as to source of seed, varieties doing badly, previous cropping, or cultural treatment and manuring, all points which would assist us in our examination. The specimen sent shows general dwarfing, due, possibly, to insufficient feeding; evidences of root-feeding insects which may have caused a "girdling" or "ringing" effect, which is quite enough to produce stunting; evidences of leaf scorch, due, possibly, to lack of potash manures; that the tubers were suffering from the effects of a slight cessation of growth, being followed by a stimulation to rapid growth, an effect due possibly to drought conditions followed by rain. This has caused growth cracks to appear, and rot has apparently followed.

CABBAGE QUERY (C. B. W.).—The purplish colour on the outer leaves of seedling Cabbages is caused by their having received some check to their growth, but if the plants receive ordinary treatment afterwards it is not detrimental to them.

PARSNIPS ATTACKED (L. M. S., Chester).—The Parsnips, though containing no larvae on arrival, have apparently been attacked by the carrot fly (*Psila rosea*). This fly deposits its eggs beside the developing tap-root. These eggs produce the small larvae which gnaw at and tunnel into the roots, often causing considerable loss. It is probable that the fly is attracted to the young Parsnips by the smell of the bruised plants or broken rootlets at thinning time. One very successful grower known to us states that he gets practically no trouble from this fly when he sows his seed very sparingly and does not thin out. This method would be well worth a trial. If our correspondent must thin, however, sprinkle sand soaked in paraffin along the rows after thinning to disguise the smell of the bruised plants. As an alternative powdered lime and carbolic might be tried. Nothing can be done this year, but the ground should be cultivated deeply and thoroughly before next year's sowing.

MISCELLANEOUS.

DESTRUCTION OF WEEDS ON POND (C. L. H., Totting).—Calculate the number of cubic feet in the pond and multiply the result by 6½. This will give approximately the number of gallons of water in the pond. For every 10,000 gallons of water put into a loose canvas bag 2½ ozs. of copper sulphate, and draw the bag across and athwart the pond through the water until all the copper sulphate is dissolved. This will kill the weed without injury to Lilies or fish.

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Saturday, August 19, 1922

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No. 2648.—Vol. LXXXVI.]

[AUGUST 19, 1921.]

EVERGREENS FOR VARIOUS SOILS AND SITES

THE planting season for evergreens will shortly be upon us, indeed where very large specimens have to be moved, possibly without previous preparation, it would be well to put the work in hand at once. Ground for permanent planting of any kind can hardly have too thorough a preparation, but such preparation will vary considerably with the soil

which it is proposed to plant. Light moderately fertile loams will need no special preparation other than thorough trenching, burying the turf, if any, face downwards in the bottom, for the generality of Conifers, including that invaluable hedging plant the Yew. In lime tree, the addition of a fair proportion of well-rotted leaf mould and spent hot-bed manure or, failing these, peat will suffice

to make such a soil suitable for Rhododendrons and other American plants. There is no need to incorporate such vegetable matter in more than the top foot or 15 ins. of soil, as such plants are always surface rooting.

Thin soils over limestone or chalk present a problem of their own. It is difficult to keep a sufficiency of vegetable matter in them to satisfy



EVERGREEN AND DECIDUOUS RHODODENDRONS (AZALEAS) IN WOODLAND.

even such unexacting trees as the majority of Conifers. American plants must be ruled out entirely. Even the provision of specially prepared beds, with entirely new soil, is not really satisfactory. The young plants soon begin to sicken and seldom survive for more than a year or so. Of Conifers the undermentioned usually flourish when once established, but it is wise to establish them in specially improved compost containing a fair percentage of decent loam in the first instance.

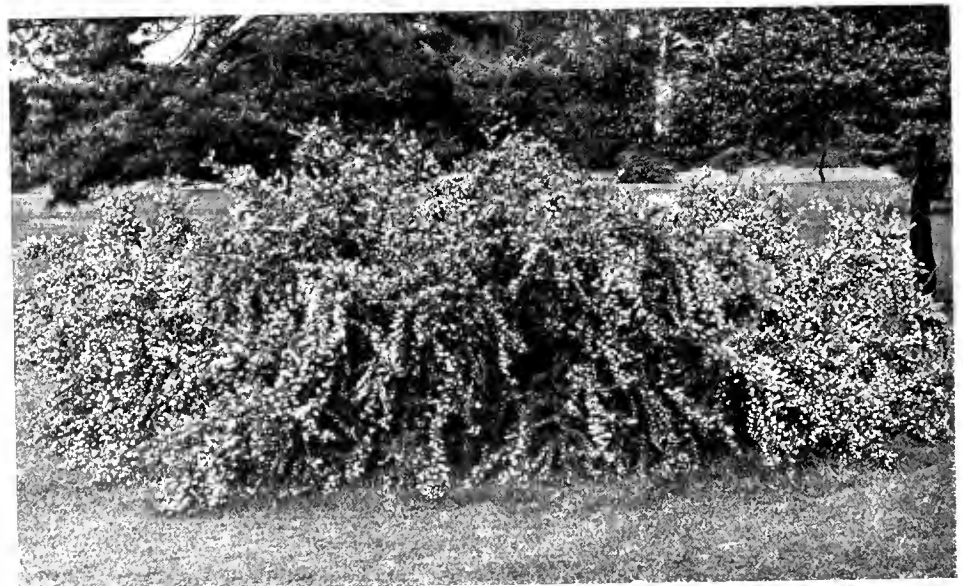
Common Spruce, Larches both English and Japanese, the Corkscrew Fir (*Pinus Pinsapo*) and those other splendid Firs, *Picea magnifica* and *P. nobilis*, all thrive once established; while *P. Nordmanniana* is spoken of favourably by some planters on chalk, though it is certainly less to be relied upon than the others. Of Pines, the Austrian, Corsican and Scotch all succeed; so do the Bhotan Pine, *P. excelsa*—an excellent substitute for the Weymouth Pine—and the Cluster Pine, *P. Pinaster*. The Maidenhair Tree, *Ginkgo biloba* is chalk-loving. Practically all the race of *Arbor-vitæ* succeed, including that accommodating tree *Cupressus nootkatensis* and most Junipers, including the Savin, the Chinese, the Irish and the Virginian. Cedars have also been satisfactorily established on chalk though some find the Cedar of Lebanon more difficult than the Atlas Cedar or the Decedar. The "blue" variety of the Atlas Cedar seems as satisfactory on chalk as the typical green form. The Wellingtonia, too, once established, is quite successful. It is better as a rule to dispense with the Lawson's Cupresses, which have, during the last few decades, been planted far more lavishly than their merits would warrant. The typical tree, however, has been established on chalk, also the varieties *Trompbe de Boskoop* and *Album*, two of the most useful, and the very distinct erecta variety, *Cupressus macrocarpa*, an excellent hedging plant succeeds on heavy soils, but it must be remembered that this species is hardy inland only in the south and south Midlands. Hollies will not survive in sour soil, yet thin soils over limestone or chalk need some improvement before Hollies will really thrive.

Stiff clay soils are perhaps more difficult than chalky ones to furnish. It is true that there is here no class of evergreen which may not with trouble and by the importation of more suitable soil, be grown, but the working of really stiff soils to make them suitable for Conifers of any kind is a serious business. Leaf mould, drift sand, road scrapings (free from tar), and fibrous loam—even that from the top spit of a stiff pasture is helpful—may all be pressed into service to provide that easy root-run which the fine root hairs of Conifers need. Nor must adequate drainage be overlooked on such soils. I am in favour of common shrubs, excluding Roses or, in fact, any really heavy soil.

Of flowering evergreens, also, there are some which will flourish in a light soil, whether chalky or not. Such evergreens, probably of species, These are especially valuable because they will grow in partial shade, though some deciduous species, such as *Berberis vulgaris* and *B. Humberti*, chiefly valuable for their autumnal colour, should not, of course, be planted otherwise than in full sun. The same may be said of that now large group of species cultivated principally for their ornamental fruits. Such as *B. B. Wilsoni*, *subcordata*, *Prattii*, *polyantha*, *distachya*, *umbellata* and the almost innumerable hybrids of these. None of these, of course, is called evergreen, but like the Brooms they have a wintering effect in winter even when destitute of berries. The Laurel, including the Portugal variety, should not be planted on lime free soils, especially on the coast or in low free soils.



MOST USEFUL OF FLOWERING SHRUBS, *BERBERIS STENOPHYLLA*.



THE GRACEFUL AND ORNAMENTAL *ESCALLONIA PHILIPPIANA*.

PINK AND ROSE EARLY TULIPS

Being an account of a trial at Whitewell.

The Rock Roses (*Cistus*) seem to thrive on any light soil, but perhaps they withstand frost better on one with a fair lime content. The Escallonias are equally accommodating, so are the evergreen Euonymuses. The Escallonias are, of course, not hardy in colder districts and the evergreen Euonymuses are only of practical use where sea breezes can reach them. All evergreen Privets, the Laurustinus (*Viburnum Tinus*), the Rose of Sharon (*Hypericum calycinum*), the Yuccas and Lavender are other shrubs planting nothing better than a fairly light soil.

It is a great thing to know which shrubs and trees are likely to succeed on a particular soil, but it is vital, in addition, to know which of the "possibles" will yield desirable effects in the garden. In some landscapes, heavily timbered with deciduous trees, the use of Conifers at all is to be deplored as giving a spotty effect and so spoiling an otherwise beautiful view. Such sites are few and far between, but the number of gardens which have been planted with *Cupressus Lawsoniana* and its varieties, to the serious detriment of the garden itself and its surroundings, is legion.

Conifers in the average garden can only be a setting. There is not space for them fully to display their beauty as individual specimens and the simpler the setting and the more it is in keeping with the landscape, the more satisfactory will be the result. Of all Conifers the Scotch Pine is most in keeping with the scenery of our less pastoral counties. The reasons for its comparatively small use are probably (1) it does not transplant readily except when young, and (2) it does not grow as rapidly as the much planted Douglas Fir. The value of this latter tree as a screen for shutting out unsightly objects cannot be gainsaid, but it has an exotic appearance even when planted in a grove. Its colouring, too, is overlit to form a satisfactory background to colour so that some more satisfactorily toned evergreen should, wherever possible, be planted in front to provide the necessary background. The Colorado variety has, of course, the necessary colour, but lacks the quick growth which is the principal attribute of the "Douglas."

The Scotch Pine is, on congenial soil, a rapid grower, but is certain in the long run to go bare at the base; so that, near the flower garden, space should be provided in its case also for lower planting to provide a solid background. Less exotic looking than the Douglas Fir, the Austrian Pine "furnishes" better than the Scotch Pine, but is rather funereal in appearance. It also must be moved when small and even then is somewhat liable to be uprooted by strong winds. The Weymouth Pine, *Pinus Strobus* and the Bhotan Pine, *P. excelsa*, are too sparse in habit and too pale in colouring to make satisfactory backgrounds.

The Cedar is a fine tree, too valuable and too distinctive, of course, to use for backgrounds, but admirable, despite its rather un-English effect, for avenues and as a specimen tree. Despite its most attractive appearance when young the Deodar as a grown specimen is noticeably inferior to both the Atlas and Lebanon Cedars. How many fine Cedars there are to be seen, their branches almost touching the windows of what should be living-rooms, but which are in fact little better than family vaults for comfort! The owner has had to choose between the tree and comfort indoors and has (from a tree-lover's viewpoint, not unnaturally) chosen the tree. Cedars of all sorts should be kept quite away from the house and in positions where room can be afforded them to develop fully. This means that space cannot be found for them in any garden less than two or three acres in extent.

The Spruce is a beautiful tree which, if allowed, will retain its foliage to the ground. It should be planted in groups rather than as individual specimens.

ALTHOUGH Darwin and Cottage varieties claim the pride of place nowadays in our gardens, it was not always so. We were once glad enough to have the "earlies" to give us, along with the Hyacinths, the first reds and pinks of the year. It was a welcome change from all white, yellow, purple and blue. They still fulfil the same purpose and we are loath to banish them altogether. There is nothing to take their place at the early period of the year when they are in bloom. Not that I would limit my choice altogether to pinks and reds. The very shape of their flowers provides a different

look, for the Crocuses are past and over before it is their turn on the stage. Then sentiment comes in and pleads with all the force of a Sir Charles Russell for their retention. A garden cicerone ought to have a tongue. Is it nothing to take visitors to see, say, a patch of *Couleur Cardinal*, and, finding that two or three have cast aside their demure coats of deep crimson and plum and appear in far gayer dark red and rich yellow stripes, to point out how any self coloured flower may another year become a striped one? Is it nothing to be able to say of any of these striped earlies, "It was such flowers as these that created the mania," and then to go on and tell a few tales of that most exciting and extraordinary time? I think it is almost certain that *Semper Augustus*, *Admiral van der Eyck* and the rest were Tulips of the early type, whose counterpart we get now in *Admiral Reimier* (red and white stripes), *Golden Bride of Haarlem* (scarlet and yellow), and *Fabiola* (rosy mauve and white stripes). This is why the earlies always appeal to me. Any broken or rectified "early" is, in its way, a modern

replica of those famous flowers. One astounding fact about the mania time, and which shows how artificial it all was, is the fact that bulbs in the end came to be sold by weight! Fancy Sutton's opening an order for two pennyweights of *Cottage Maid*, or *Barr's* for an ounce of *Prince of Austria*, as if they were peppermint humbugs or boiled fruit drops! No, I would not like to be without some earlies, although visitors to my garden find them few in number compared with the more important and more popular long-stemmed Darwin and Cottage varieties. I take them up in relays. In 1920-21 it was yellows, and readers may remember how high in my list I placed *Prince de Ligny*. I want to add to it *Rising Sun*, *Jaune Supreme* and *Hildebrand* of the lesser known ones in the order named. These make a grand quartet. Last time, in 1921-22, I went in for the pink and rose

shades. My collection of thirty-six varieties is not a complete one, but it included pretty well all the best known ones like *Cottage Maid*, *La Reine* (this is not pure white outside), and *Jenny*. These were quite sufficient in the long bed to pick from. Before going into details I would ask readers to remember that what follows applies entirely to their behaviour out of doors and that this last spring has been a very rotten one for these early birds. *La Reine* has already been mentioned. It is grown by the ten thousand for forcing for market and then it is a pure white. Outside, however, it develops a pretty pink edge. It is rather a poor



TULIP PINK BEAUTY.

little flower in itself, but it has a peculiar facility for sporting, and unless my eyes have deceived me it has given rise to a good many novelties. There is a pinky set and a rosy set. I may say at once I am not very keen on any of them. Somehow they have too unkempt an appearance to please me. Perhaps I am too fastidious about shape for I have a seedling Tulip which we call *Rosy Morn* which, in a mass, is the most glorious bit of colour that anyone can wish to set eyes on, but alas! many flowers come rough and produce more petals than they ought to do. I am inclined to scrap it. "No," says my head man, "you must not do any such thing. Let us grow it on. Such a lot of visitors say they like it just because it has not such a strait-laced look like most others and is a bit unconventional. For garden decoration it does not matter a pin." So *Rosy Morn's* life is spared and next year there

will be a goodly stock, and it ought to be a great sight. I hope I am not doing the sports of La Reine an injustice in saying none of them appeals to me, but I am now recording my personal likes. Of one thing I do feel confident in writing about them. They are not all wanted. They are too near to one another for their differences to be really appreciable in a garden. Prosperity, Flamingo, Ibis, Rose La Reine and Ariadne (rosy spots) are not all wanted. Ibis is my choice. It is very bright looking and has a more decided colour than the others. Rose Falcon, Princess Juliana and Blushing Bride are a pinky trio. The most taking is the last named.

This gets rid of a fair proportion of the trial. Of the others I plump for the following: Van der Helst (Princess Wilhelmina is almost identical as I have them), Rose Tendre, Alice Roosevelt, Rose Aplatie, Roos van Dekama, and Pink Beauty. Jenny and Proserpine were included with the others. Both are excellent for bedding. They are roses, it is true, but only just. Carmine-rose they are often labelled. But then Pink Beauty is no more pink than a scarlet hunting coat. But as Shakespeare (or, as a learned and determined Exmouth friend would have had me write, Bacon), says, "What's in a name?" If Pink Beauty is a deep rose—in some lights almost red—it is a grand garden Tulip—a veritable "Bobby Spencer" among its fellow members of the House of Pink and Rose. There's no agricultural labourer's look about its smart, dapper appearance. It no more looks like one than my Rosy Morn looks like a florist's breeder of the first water. Seeing Pink Beauty in a garden for the first time, you are bound to ask, "What's that?" Rose Tendre I have long known as an improved Cottage Maid for pots. I also place it above that well known and popular variety for outside, Rose Grisdelin. Alice Roosevelt was new to me. It is a particularly delightful shade of real pink, large enough to please anybody and a good laster. In early life it is very nearly a self. If these lines are read by any of my Dutch friends, I would very much like to know if Van der Helst and Princess Wilhelmina are considered to be synonyms; if they are different, there's very little in it, so little that it does not much matter which one has. I feel sure, unless the wrong bulbs were sent to me last year, that the R.H.S. book errs in placing them in different colour sections. Much the largest patch was labelled Van der Helst. It is a pointed flower, deep rose, with a pale flame on the exterior of the petals, and of quite a respectable height. It was in full bloom in early May, at least ten days before Pink Beauty. Rose Aplatie is very much on the dwarf side, but it is a taking, square-shaped flower and attracted me because the pink was so much paler than in all the others from the start to the finish. Roos van Dekama—my last "Spot"—does not seem to have been in the R.H.S. trials in 1914-15, but I have long known it as an A 1 plant for pots. It is very nice outside, too. It, like Rose Aplatie, is rather a dwarf, but its wide, deep rose and pink petals give it an air of distinction and importance. I think a mixture of Roos van Dekama and Rose Tendre in a bed would be most effective, as the difference in their heights would take away that stiff look which cannot be avoided if one variety only is used. I think I ought to mention Rose Duc van Thol. It was almost over when I arrived home and saw it for the first time, but my landlady told me the pretty little pink flower had stood all the rough weather without turning a hair.

By the way, can anyone tell me anything about a wonderfully charming and distinct small double which was sent to me for trial by my friend Mr. Bull of Ramsgate? He describes it as a coral pink, and he sent it under the name of Rose La Reine. It is such a pleasing little flower. JOSIE JAYOU.

THE REGELIO-CYCLUS IRISES

SOME little time ago (June 24, page 307), you published a photograph showing one of the beds of the Regelio-cyclus Irises as grown at my Zwanenburg Nurseries. Judging from the poor and disappointing results the Oncocyclus or Cushion Irises mostly give, some people are only

trans-planting every year, gives a wealth of flowers the first season after being planted, coming into bloom at a period when all the tall Bearded varieties are only just showing buds.

It may be that their success here is partly due to our porous, sandy soil, full of lime, but on the other hand cold, wet, heavy soils are just as unsuitable to the ordinary Bearded Irises and anyone who has a warm, sheltered garden in good cultivation, so that he can grow the Bearded Irises well, can safely try the Regelio-cyclus varieties. Visitors to the Chelsea Show had the opportunity of seeing great quantities of these flowers, English grown, and cut from the open ground only the day before the opening of the Show, which proves that they do not want the "favourable" climate of Holland to develop well.

Readers of THE GARDEN who are not yet acquainted with the origin of this class and wonder why the Regelio-cyclus class always does well, as compared with the capricious Oncocyclus group, must not overlook that they have been saved from varieties of the various Regelia Irises (Korolkowi, Leichtlini, vaga), crossed with the best forms of the Cushion Iris (iberica, Lortetii, Susima). The former never give any disappointment, forming in one season big clumps with many flower stems. The progeny of these crosses, to wit, the Regelio-cyclus group, have inherited the free-flowering qualities of the seed parents, as well as the



REGELIO-CYCLUS IRIS POLYHYMINIA.

too ready to think that the Regelio-cyclus behave in the same way. Much already has been said in the columns of THE GARDEN by enthusiastic amateurs, who reported their experience with these Irises, stating that they were quite satisfactory and flowered well for years in succession and I once more venture to bring this topic to the front. Our Dutch climate is by no means so mild and sunny as is sometimes believed; we had a truly arctic, inclement winter, the ground in our garden was frozen more than 1½ ft. deep and our summers are mostly cool, with more cloudy days than bright sunshine. Notwithstanding these facts the Regelio-cyclus Irises, which I have now grown for more than a quarter of a century, always do well and flower very profusely, as the photograph clearly showed. It is no exaggeration to state that they flower more freely than the common Bearded Iris, which certainly give a mass of bloom, but only if they have been left untouched for some years; transplanted rhizomes generally want a year or more to get established. The Regelio-cyclus group, which requires

noble shape of flower which distinguishes all the pollen parents.

Culture may be briefly summed up as follows: select a warm, sheltered spot in the garden, for preference at the foot of a south wall, and work it deeply to ensure perfect drainage. If the soil is poor, mix a fair quantity of old pulverised cow dung in it; if the ground be heavy, use plenty of sharp silver sand and surround the rhizomes with it. This will facilitate the formation of roots. Soils that are destitute of lime must be mixed with finely crushed old mortar. Plant about the middle or end of October and cover the rhizomes to a depth of about 3 ins. in heavy soils, rim more in light soils. Carefully spread out the fleshy roots attached to the rhizomes without huddling them together.

Where the soil is on the heavy side, plant, if possible, on a slightly raised bed, which will allow all superfluous water to drain away easily in winter. As these Irises are hardy, they require little protection in winter, but to prevent the soil getting beaten down by continuous heavy rains, a covering of dry boughs will suffice to keep

the soil soft and manageable. About the middle of July, as soon as the foliage shews signs of turning yellow, lift the rhizomes, leave them in the open air for about three or four days to ripen off thoroughly, cut the foliage to about 4 ins. from the crowns and shorten the roots a little. The rhizomes are then stored away in an absolutely dry, rather warm place (a shelf in a vinery is a capital spot), until planting time comes round again. If necessary the clumps may be divided then.

The variety *Polyhymnia*, of which I send a picture, is one of the best of my recent seedlings; it is the result of a cross between a specially large

flowering strain of *Regelia*s, found by my collector some years before the war in Bokhara, and some of the best *Oncocyclus* forms. These flowers are much superior to the original Korolkowi varieties as introduced by the Russian botanist, Dr. Regel of St. Petersburg, and crosses between this strain and the *Oncocyclus* have given remarkable results. The variety *Polyhymnia* has stately stems, 20 ins. tall or more, and bears uncommonly large flowers of noble *Oncocyclus* shape, with well rounded petals of a delicate creamy white, netted and veined all over with pinkish brown.

Holland. C. G. VAN TUBERGEN, JUN.

THE TALLER COTONEASTERS

ALTHOUGH not commonly seen in gardens, *Cotoneaster pannosa* can claim to be one of the best of its race. Hailing from Yunnan, the home of so many good things, it is perfectly hardy and of the easiest culture almost anywhere. *C. pannosa* merits a foremost place among its clan because it is not only a free and handsome berry producer, but because of the graceful habit of its evergreen branches, which are most elegantly tapered and arched. The wine-red stems prove an admirable setting for the downy, grey-green leaves, which in their turn make a fine background for the bright crimson berries. These fruits, pear-shaped and in small pendent clusters, are yielded so generously that it is not an uncommon experience to see every twig on a large bush terminated with its prettily poised bunch. Moreover, since birds do not seem fond of them, the fruits often remain on the branches until early spring. *C. pannosa* grows 7 ft. to 8 ft. high and makes a good specimen bush.

C. Franchetii is not unlike *pannosa* in stature and general appearance. The evergreen foliage and young wood are rather more downy and, if the bush is not so graceful, it excels during the flowering period, for the blossoms are rather larger than those of the above-mentioned and they are effectively splashed with bright pink on the outside. On close inspection they resemble tiny wild Roses. The fruit which ripens early (September), hangs well and is a pale orange.

Another species, introduced about twelve years ago, which has rosy flowers and is a handsome bush when in fruit is *C. Zabelii*. So far, this one has not attained a height of more than about 4 ft. with us, the several fish-bone branches radiating upwards and outwards from the base like the fronds of a Fern, but it will doubtless grow higher. The berries are pear-shaped, bright red, and the rather broad, rounded leaves are a grey-green with white undersides.

In foliage and fruit *C. Dielsiana* runs the last mentioned rather close. But this deciduous species is distinctive in its habit of growth, the branchlets breaking in angular planes from the main stems, as in *C. horizontalis* and others, a feature which has given the species the synonym *applanata*. Berries are copiously produced upon every twig and they ripen to crimson in autumn. Like *C. pannosa*, this species often has a crop of self-sown seedlings coming up about it. It will attain the proportions of a small tree.

The evergreen *C. salicifolia floccosa* is, as its name suggests, a willowy shrub of exceedingly graceful habit, the long and slender whip-like branches sweeping over in a charming way. The pointed narrow foliage is also willow-like and the highly glossed leaves are rendered still more attractive by being bronzed above and white, or nearly so, on their undersides. This *Cotoneaster*, in common with the next mentioned, appears to be

rather longer coming into the flowering state than most. A specimen here is some 5 ft. high, but it has not berried freely yet. The fruit is nearly as large as that of the Mountain Ash, a bold crimson-red and produced in bunches which stand out conspicuously from the sparsely foliated branches.



FRUITING SPRAY OF COTONEASTER FRIGIDA.

C. salicifolia floccosa was brought over by Mr. Wilson from Western Szechuan about ten years ago, being preceded, I believe, by a few years by its near kinsman, *C. rugosa* var. *Henryi*. This would appear at a glance to be merely a much enlarged form of the other, being more robust in habit and bigger in all its parts. It has not yet berried here, but the fruit, I am told, is not yet proportionately larger, but has more orange in its crimson than that of its lesser prototype.

In *C. Simonsii* we have a shrub that is too well known to need description. It is, however, one which is seldom appreciated at its full worth, for a good specimen, a dozen or more feet in height, bearing its large crimson or vermilion fruits when the fall of the richly tinted autumn foliage leaves the branches bare is a cheerful sight at the end of the year.

Not unlike *C. Simonsii* is the evergreen species *C. angustifolia*, now called *Pyraeantha angustifolia*. This is a handsome shrub of 5 ft. to 6 ft. and a good wall subject, in which position it will often go to a much greater height. It makes a brilliant autumn display when laden with its gorgeous clusters of orange-yellow berries. A good town shrub.

Though seldom seen, *C. moupinensis* (*bullata*) is well worthy of wider popularity, for though its branches are somewhat sparsely foliated with "blistered," pointed leaves, 2 in. or more in length and half as much in breadth and the flowers insignificant, the glossy fruit is as large as a small Cherry and a rich blood crimson. These berries are borne in copious flat clusters, but they unfortunately afford an irresistible attraction for birds. *C. moupinensis* makes a large, thin-habited shrub.

Another deciduous species which hardly attains to its dimensions and which is in form more akin to *C. Zabelii*, is *C. houpehensis*. The spreading, gently curved branches of this shrub are thinly furnished with rounded, grey-green leaves above which are produced in early autumn the conspicuous corymbs of white flowers. *C. houpehensis* has not yet set fruit here, but it is, when in blossom, one of the most notable of its race, the flower-clusters being not only large, but of good pure white and disposed along the branches after the manner of *Spirea canescens*.

C. frigida is a deciduous tree some 20 ft. in height with abundant velvety foliage of a tender shade of green. When in full fruit this is a most handsome species, certainly among the best of berry-bearing trees. The fine bunches of large berries are a vivid orange-scarlet, but birds like them and they do not stay long should the early winter be severe. There are several forms of *C. frigida* marked by differing foliage and by variations in the size and colouring of the berries.

Though usually grown as a creeping shrub, and often unnaturally pinioned with nails and wire against a wall, *C. horizontalis* will make a specimen of considerable size if allowed full freedom for expansion and a good soil. For that reason I am induced to include it here. Its excellent attributes—the fine autumnal leaf-colouring and wonderful fruiting propensities, are well enough known, but these are not enjoyed to the full unless the shrub is, as I have suggested, given the opportunity of

disposing its long "mill-sail" branches in a tree and natural manner. A good specimen of *C. horizontalis* will, under such circumstances, cover an area with a diameter of 12ft. to 15ft. Of the variety known as *C. h. purpusilla*, which is said to be somewhat smaller and denser, but otherwise equally desirable, I have had no experience. But the quite prostrate form, originated in Mr. E. C. Buxton's garden, with the fish-bone branches disposed in flat, creeping, horizontal planes, is quite as large in all its parts and as robust as the type, a shrub of rare beauty in habit, leaf and fruit.

The latest addition to the horizontalis family is *C. h. variegata*. This is a distinctly variegated form of the type, the leaves being margined with creamy white, which alone strikes an uncommon note in this genus, but, in addition, the variegated leaves assume wine-red, purple and other autumn tints which are not apparent in the typical plant. *C. h. variegata*, for which we have to thank a French grower, is a valuable addition to the Coto-naster family, but whether it will prove to be quite so free-growing and vigorous as the original there would seem to be some reason to doubt.

N. Wales.

A. T. JOHNSON.

SOME GARDEN GROUPINGS

MANY a keen gardener has no liking for, or cannot be bothered with, elaborate colour schemes in the garden; but few can go through the gardening year without noting with extra pleasure at least a few happy associations of plants with one another. Here are some notes of groupings that have struck me lately, some of them accidental, others designed. I pass them on for the amusement of others who may enjoy the same game.

Early in the year nothing in any garden gave me so much pleasure as a mass of *Crocus Tommasini* thickly interwoven with *Iris reticulata*. In light soil, in a little enclosed spring garden, both bulbs had multiplied amazingly and the play of colour from pale amethyst to the deepest violet purple made a most lovely sight.

Later in the spring I noticed how well the grey-blue flowers of *Rosemary* served as a contrast to the pale yellow of *Cytisus præcox*. There are some other blue flowers, including blue *Columbines* and *Scilla campanulata*, which carry on and intensify the colour of the *Rosemary*.

It is not often that one sees that wonderful shrub, *Berberis Darwinii* used in perfectly appropriate company. A beautiful planting that I saw this year was a tall tree of the *Barberry* leaning up a face of grey rock; leading up to this, on either side of the path, was *Narcissus Lucifer*, backed by half shadowed clumps of the giant *Crown Imperial*. The orange crowns of the *Narcissus* took up the colour of the *Barberry*, and the pale yellow perianths seemed more beautiful in that place than white ones would have been.

Another grouping which I noted at the same time was that of *Helleborus*, with the green-flowered *Correa viridis*. But this is a planting too discreet and colourless to be of interest to most people, and the *Correa* is of course only hardy enough for the mildest localities.

Rosa Hugonis is curiously beautiful in the company of *Solomon's Seal*; *Dielysia spectabilis* and *Iris flavescens* are worth adding to this group. *Escallonia Langleyensis* is splendid trailing over a foreground or a wall planting of the *Red Valerian*. I should like to see this on a big scale. I notice, by the way, that many who know this delightful shrub do not know the paler but no less beautiful

sort *Edinburgh*, or *Donard* seedling. *Edinburgh* is indispensable. Here are some groupings from the herbaceous border—very simple ones, mostly of similar colours. *Eryngium Oliverianum* with *Montbretia G. Davison*; *Monarda didyma* with red *Pentstemon* of the colour of *Newbury Gem*; *Erigeron Quakeress* with or behind dwarf purple *Lavender*; *Lilium croceum* with *Clematis recta flore pleno*; *Ceanothus Gloire de Versailles* with *Aconitum volubile*, *Clematis Perle d'Azur*, and a foreground of *Potentilla Friedrichseni ochroleuca*. This last grouping, which I think I referred to in these columns some years ago, is certainly very beautiful, both in form and colour. *Ochroleuca* is better for the purpose than the ordinary *P. Friedrichseni*, being paler in colour, but either will do. If you can get the *Clematis* to grow up into a tree, say an *Apple tree*, behind or among the *Aconites*, so much the better. The *Aconites* will run up 6ft. high or more and will need very little

staking if the *Ceanothuses* and *Potentillas* support them properly. The *Ceanothuses* should, of course, be cut hard back in the spring, leaving those at the back rather taller bushes than the front ones.

Let me recommend those who do not know *Lilium Pseudotigrinum* to make its acquaintance. In the article on *Lilies* in *THE GARDEN* of August 5, this species was omitted, but it is certainly very easy to grow and of the highest beauty, much more graceful than the common *Tiger Lily*. So far as I have tried it it does not seem to object, as the *Tiger Lily* sooner or later does, to a chalky soil. It is most beautiful in colour with creamy white flowers, such as *Clematis Flammula*, and with grey-green foliage such as that of *Buckthorn*.

In conclusion, have you ever used *Teucrium fruticosum* (on a wall) as a background to *Gladiolus primulinus*? If not, do try it; it makes an incomparable foil, especially to the pure pale yellow sorts such as *Canopus*. A PAINTER.

NATURALISING DAFFODILS

CAN one ever, I wonder, have too many *Daffodils* planted, in as natural a way as possible in little dripts and clumps among plants or shrubs in the mixed border or, space permitting, in wide flung masses amid thinly planted trees, so that a veritable sea of golden glory results and one

far as flowering is concerned; the bulbs live upon their stored-up energy, but the overdraft has to be met and, the following year, if flowers are poor and sparse, one should think backwards to the date of planting.

While it is true that some *Daffodils* will not thrive for a period of years in the cultivated border,



DAFFODILS NATURALISED AT WARLEY PLACE.

almost loses sight of the grass in which they are growing.

At this season the *Daffodil* cycle of growth starts afresh. Pictures like those on this page do not "happen," they are created by the flower lover. Nature is always ready to back our efforts, however, and respond to our attempts; even, in many cases, in time largely to correct our errors, but she exacts a certain amount of effort on our side before she pays the reward.

A golden rule is to plant the bulbs early. This season the work may be put in hand at once since abundant rains have made soft the ground. Late planting may not shew so badly the first year, so

I do not believe that there is a single one that will not do so in grass; it is the natural home and one and all, without exception, do remarkably well in it. Should you be so happily placed that you have a piece of undulating ground, by all means seize upon it—you cannot possibly improve upon this; the small hillock, dipping into a miniature valley, is a possession to prize.

By all means include as many classes as possible, for thus will naturalized *Daffodils* give the greatest possible display of bloom. Glorious trumpets, yellow, white and bicolored, *Incomparabilis* with short cups and yellow or white perianths, *Barrii*, starry *Leedsii* with white perianths and cream or

citron cups, tinged with pink or apricot, Jonquils, Poeticus and double forms, one and all must be pressed into service if the broadest, most perfect and most lasting pictures are to be procured.

Another thing to which too great importance cannot be attached is natural grouping. No formality must appear anywhere. Take the bulbs by handfuls, fling them from you across the ground they are to occupy, plant where they fall and one can make but little mistake.

The following list of excellent, reasonably priced Narcissi for naturalising includes varieties to give at once the longest possible display and the best possible massed effect consistent with such length of flowering.

The earliest varieties to flower of those suitable for naturalising under turf are Golden Spur, Henry Irving and the gigantic, but not yet very low priced, King Alfred. Flowering at about the same time there are the dwarf golden yellow Nanus, beautiful on a grassy bank, and the delightful creamy-white Moschatus of Haworth, which will flourish in cool soil in semi-shade or on a bank with a north aspect. About the same time there flowers the Tenby Daffodil (*obvallaris*), which also does best in partial shade and is quite ideal for naturalising.

A little later than those just mentioned comes Lobularis, an admirable dwarf bicolor, for half shady banks where its beauty can properly be appreciated. Still a little later and the Lent Lily of our own damp meadowlands is in flower. This is quite easy to naturalise in damp grassland or not too shady woodland, though it always proves a failure in the garden proper. At the same season, the creamy-white trumpet variety, W. P. Milner, is at its best, also the showy and magnificent Sir Watkin, an incomparabilis with all the substance and texture of a giant trumpet. Among bicolors flowering at the same time is the fine Glory of Noordwijk, while that early Leedsii, The Dove, will be little if any behind. In a warm corner those two fragrant Jonquils, the Campanelle and rugulosus, will also be in flower at the same season.

Now the Daffodil season approaches its height with Emperor and Empress, both good enough in quality for the most fastidious and both wonderfully true to flower, giving of their best. Quite different from Empress, though belonging to the same section, is the graceful white and primrose William Goldring. Among the incomparabilis varieties, Beauty and Frank Miles are good and cheap; while of the Barrii flowering with Emperor, Firebrand, Seagull and Gay Hussar are worthy of mention. Excellent cheap and beautiful Leedsii include Ariadne, Bridesmaid, Janet Image, Mrs. Langtry, Mountain Maid and Waterwitch. For grassland under trees or in partial shade the beautiful Queen of Spain is waiting.

Just a little later and the almost white trumpet Mine, de Graaf is in flower, with such Leedsii forms as Duchess of Westminster, Una and Undine, and Barrii varieties such as Conspicuous, Cœur de Lion, Lady Godiva and Royal Star. That beautiful Poeticus variety Horace also flowers now, but is still not cheap enough for most people to naturalise it extensively, but the more starry and fragile ornatus is cheap enough.

Next come the generality of the Poeticus sorts, including Cassandra, Glory of Lisse, Herrick (very fine), White Standard and, a little later, the fine old Pheasant's Eye, Poeticus recurvus. Flowering with this is that excellent late Leedsii Royal Lady. These close the season unless one except the tiny fragrant Jonquil-like gracilis, which flowers quite at the end of May and likes a sheltered grassy bank.



A WOODLAND PATH.



BY THE LAKESIDE.



FROM THE WATER'S EDGE. THREE VIEWS AT GRAVETYE MANOR.

ANNUALS, GLADIOLI and PHLOXES

The Fortnightly Meeting of the Royal Horticultural Society.

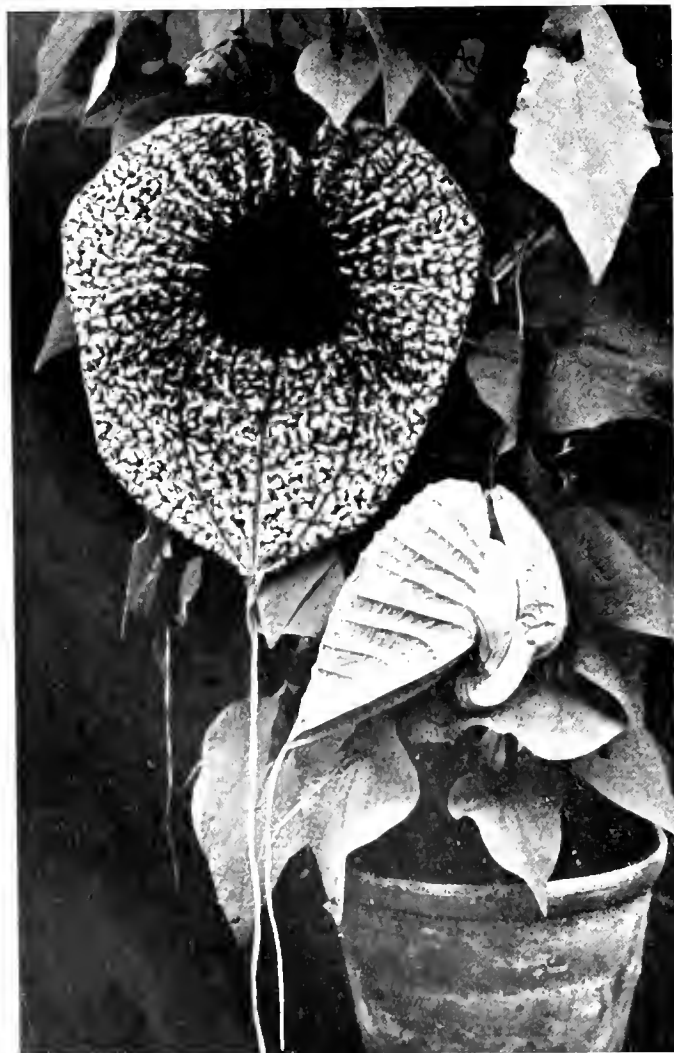
THE R.H.S. meeting at Vincent Square on August 9 last might have included a "dry-bulb" show, but in view of the lack of support previous shows received, the idea was abandoned and in place of an ordinary meeting was arranged, at which informal exhibits of home-grown bulbs would be welcomed. This enforced abandonment of the annual displays of home-grown bulbs is unfortunate and seems inexplicable in view of the very large acreage devoted to "Dutch" bulb culture in various parts of our islands. It may be that the industry is so thriving as to need no advertisement or assistance. Indeed, it is conceivably so at the moment. It is quite probable that the cut flower trade could absorb the total output. It is so, well and good, though scarcely good enough, for the time will certainly arrive when the supply will exceed this demand. We are well aware that a part of the present output does find an outlet in sales to amateurs for general garden purposes. For this the growers seem to rely on their exhibits of flowers in their season. It seems to us, however, that the flowering season is not quite the right time to impress on potential buyers the great excellence of home-grown Daffodil and Tulip

bulbs. It is just previous to the buying season that the purchasing public begin to consider bulbs. This being so, such an opportunity as that afforded by the R.H.S. shows of dry-bulbs ought to have been of immense value to the industry and on this account we deplore its neglect. It may be that the awards offered by the R.H.S. were not, in themselves, sufficient to induce competition, though a medal award should not be the whole end and aim of a trade exhibitor. At the meeting under notice the only exhibit of home-grown bulbs was from a private garden. Mrs. Wallis Toller, Woodside, Weybridge, sent a collection which included nearly all the spring flowering bulbs that can be grown in this country and although some of the bulbs and tubers were perhaps a trifle small, they were sound and firm and surely deserving of some official recognition.

The floral exhibits were of the usual character, except that Orchids were much fewer than at previous meetings. That two gold medals were awarded is an unusual occurrence at this time of the year. The collection of hardy annuals, sent by Messrs. Sutton, was considered by several of the judges to be the finest that has ever been seen at the hall, though we are inclined to the opinion that

the Reading firm's exhibit of two years ago was even more praiseworthy. On the present occasion it was very beautiful, however, and fully illustrated what a wealth of annuals we may draw upon to make our gardens beautiful at comparatively little expense, even during such an unfavourable season as this. There were annuals for all tastes and for all purposes, though for striking, floral effect it was the handsome baskets of *Lavatera Loveliness* and the large vases of annual *Lupinus* that were so very successful while quieter and perhaps more artistic effect was provided by the Shirley Poppies which, in both single and double forms, included many delightful shades of colour. Marigolds have long been favourite garden flowers and of these there were the rich orange variety of the old-fashioned type as well as the massive double African and the smaller compact flowers of *Legion d'Honneur*. The blue *Love-in-a-Mist* is very well known and was represented by a large vase delightfully arranged, but the white variety was new to many visitors, as also was *Aretotis grandis*, which is really quite an old annual. *Viscaria Pink Beauty* and *Larkspur Pink Pearl* are two very elegant annuals of charming colouring. Space, however, does not permit the mention of a tithe of these gold medal annuals, which included almost every one of those worth growing.

The other gold medal was awarded to Mr. H. J. Jones for a collection of herbaceous Phloxes. At several meetings Mr. Jones has arranged



AN EXTRAORDINARY DUTCHMAN'S PIPE, *ARISTOLOCHIA GIGAS* STURTEVANTH.



A GRAND ADDITION TO HERBACEOUS "SPIRÆAS," *ASTILBE* KING ALFRED

excellent exhibits of this showy and valuable plant and this medal is a very appropriate reward for the whole series. The bright colours of such as C. Edwards, Homeland, Scarlet Gem, Imperator and Jules Sandeau were exceedingly pleasant to look upon during the dull afternoon.

Gladioli came next in importance and of these handsome flowers Messrs. Kelway had the largest collection. They showed a great many of the best large-flowered sorts and also some very graceful *Primulius* hybrids. The latter were especially good in a collection of Messrs. Lowe and Gibson, who had vases of *Zenobia*, *Insurpassable*, *Regulus* and many others, with some large-flowered kinds, among which the remarkably-coloured *Fieldmouse* was noteworthy. Decorative spikes of *Primulius* hybrids were also shown by Major G. Churcher.

Among the border flowers was a good vase of the Californian Poppy, *Romneya Coulteri*, shown by Mr. G. R. Downer, and there were several splendid *Kniphofias* with the elegant *Poterium obtusatum* in a collection by Messrs. M. Prichard and Son. A goodly vase of *Allium sphaerocephalum* was noteworthy in the group arranged by Mr. G. Reuthe. This round-headed species has had a ready sale at Covent Garden lately. It is a native of South Europe, but the bunches on sale were mostly grown in Holland. They were exceptionally vigorous and unless bruised one did not notice the "oniony" smell.

At the end of the hall under the clock were three very distinctive exhibits. Messrs. J. Macdonald and Sons made a pretty little garden solely of Grasses, somewhat on the style of their Chelsea exhibit. Messrs. J. Vert and Sons brought some of the magnificent Hollyhocks for which they are noted. These were all double-flowered varieties, and the tall stems were thickly studded with fully double flowers which possessed the outer "guard" petals without which the old time florist would have spurned any Hollyhock, no matter how beautiful its colour might be. By the stairs Messrs. G. Bunyard and Co., had a small but very choice collection of pot fruits, all illustrating high cultivation. There were Pears, Apples, Plums and Figs, all first rate, and the Pears surpassingly good. The bushes of *Marguerite Marillat* bore immense, perfectly shaped fruits. The varieties of Apple shown were Rival, Rev. W. Wilks and Peasgood's Nonsuch, while of Plums there were Monarch, Late Orange and Victoria.

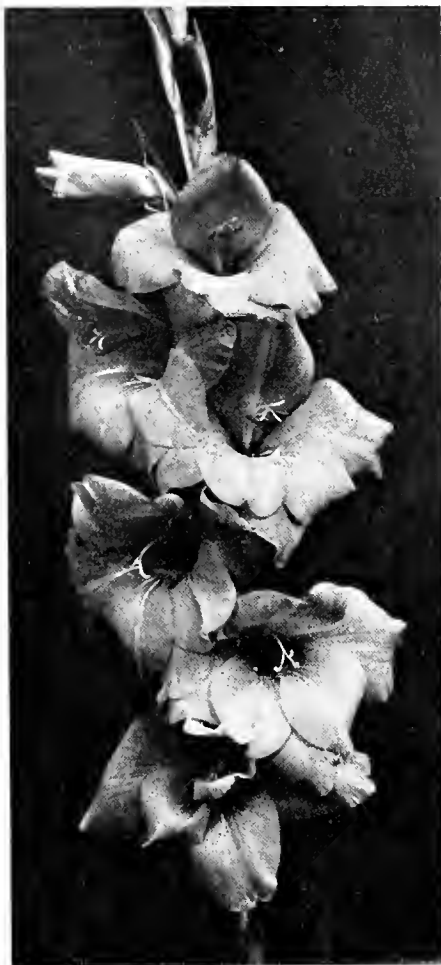
In another part of the hall Sir James Knott, Bart., Close House, Wylam-on-Tyne, sent from his gardens over sixty dishes of Gooseberries. This was the largest collection that has been seen at the hall for a considerable time and it received a deal of deserved admiration. The large fruited sorts included such well known names as Leveller, Overseer, Speedwell, Collie's Lane Leader and Matchless, and there was also a dish of the luscious little yellow Champagne. Adjoining the excellent Gooseberries there were several dishes of equally meritorious Red and White Currants.

From their Wisley trials the Society sent up specimens of all the Turnip-rooted Beet that received awards of merit and these so impressed the Committee that the collection received a card of cultural recommendation.

NEW AND RARE PLANTS.

***Aristolochia gigas Sturtevantii*.**—A vigorous plant of this tropical climber, bearing a fully expanded flower and several large buds, was shown. The uncommon appearance of the enormous perianth, with its curiously contracted tube and long tail attracted much attention in spite of its unpleasant odour. A good specimen is in flower on the roof of the Victoria regia house at Kew. Shown by Messrs. L. R. Russell, Limited.

***Astilbe King Alfred*.**—This is one of the tallest of the hardy herbaceous "Spireas," the flower spikes rising fully 6ft. in height. The fastigate, almost congested habit of the flower spikes suggests *Astilbe Davidii* parentage. The long plume-like inflorescences are composed of myriads of creamy-white flowers on chestnut coloured stems. An



THE BRILLIANT GLADIOLUS RED FIRE.

admirable plant. Award of merit to Messrs. M. Prichard and Son.

***Astilbe simplicifolia hybrida rosea*.**—In general appearance this is a more vigorous *Astilbe simplicifolia* and so is a valuable garden plant. The rosy coloured spikes were freely borne on a plant in a 5in. pot. A white variety of elegant habit was also shown. The rosy variety was the more robust, but both are quite twice the height of the type plant. Award of merit to Mr. G. Reuthe.

***Asplenium F. f. angustatum medio-decipiens corymbiferum*.**—It was sapiently suggested that this name might, for general purposes, be considerably shortened. The plant, however, is a very beautiful and uncommon hardy Fern. The pleasantly green fronds are about 18ins. long and the ends of the pinnae are delicately crested. Award of merit to Mr. Amos Perry.

***Cattleya Eleanore* var. *Prince of Wales*.**

A well grown plant bearing three good flowers was shown. The sepals and petals are pure white and this is relieved by violet-purple on the broad lip, a yellow disc and lines of the same colour running from the base. Award of merit to Messrs. Hassall and Co.

***Gladiolus Butter Boy*.** A well disposed spike of a *Primulius* hybrid. The flowers are rather less hooded than usual, but the *Primulius* parentage is quite obvious. The colour is pale golden yellow with two narrow crimson lake lines on the lower segment. Award of merit to Messrs. Lowe and Gibson.

***Gladiolus Red Fire*.**—A most brilliant spike of living scarlet-crimson colour. As is the case with the previous variety the flowers are well disposed and they have an unusual amount of substance. Both will be valuable for the garden and as cut flowers. Award of merit to Messrs. Lowe and Gibson.

***Kniphofia C. M. Prichard*.**—A tall stately spike of bright yellow flowers. This is an exceedingly effective variety in the garden. Award of merit to Messrs. M. Prichard and Son.

***Kniphofia Rouge et Soufre*.**—This is the handsome vermilion-scarlet and yellow variety so greatly admired at the previous meeting. Award of Merit to Messrs. M. Prichard and Son.

***Kniphofia July Sun*.**—A long and somewhat slender spike of brilliant vermilion-scarlet flowers. Shown by Messrs. M. Prichard and Son.

***Lewisia Wisley Seedling*.**—This quaint little plant is said to be the first genuine hybrid and was raised from *L. cotyledon* and *L. oppositifolia*. It bears well flowered 6in. to 8in. spikes of widely expanded flowers, which are about 3in. across. They are of creamy white colour with rosy magenta lines, giving a rosy pink effect. Botanical certificate to the Director, R.H.S. Gardens, Wisley.

***Stokesia cyanea præcox Perry's Purple*.**—This is a freer and earlier-flowering variety of the American Aster-like *Stokesia cyanea*. The flowers are nearly 3ins. across and of a dark bluish-purple. An uncommon and attractive herbaceous perennial. Award of merit to Mr. Amos Perry.

A ROSE TRIAL GROUND FOR WISLEY

THE Council of the Royal Horticultural Society has, we are informed, decided to establish a plantation of Roses in order to compare the behaviour of different varieties in the garden. The Council regrets that in spite of long negotiations, the National Rose Society has not seen its way to co-operate, but a confident appeal is made to rose growers for assistance in making this effort a success. A portion of the newly acquired farm land at Wisley has been set aside for the purpose, providing ample room with space to expand in the future, and while the primary object of the plantation will be the testing of new varieties of all classes against well known standard varieties, it is hoped also to increase the collection of Rose species which is already considerable. The varieties planted will be reported upon at intervals and awards will be made according to their value for use in gardens. The tests will be made, as a rule, with not fewer than six plants of each variety and all varieties sent for trial should reach the Director, R.H.S. Gardens, Wisley, Ripley, Surrey (if by rail, L. and S.W. Railway, Horsley Station), on or before November 15. The necessary forms for entering new varieties for the trials can be obtained from the Director, who will also be glad to receive offers of standard varieties for planting for comparison. It is hoped that this Rose trial ground will eventually be developed into a National Rose Garden for Great Britain, where Roses of all types will be well represented.

WINTER GREENHOUSE PLANTS

Only when it is too late to put things right will many cultivators realise that timely attention to winter-flowering plants was not given, and that as a result the greenhouse will not be as gay during the dull days as it might be.

THROUGHOUT summer and early autumn the gardener is, generally, very busy indeed and can rarely find time to pay attention to anything beyond current work. It is, in fact, always "harvest time" with the gardener and rarely, indeed, will work "keep" even for a few days without something going wrong.

At this season, however, it is well to look ahead and spend a short time now and again preparing plants for placing under glass; the reward for such work will come in due course.

Plants now outside, such as Azaleas, Arum Lilies, Genistas, Acacias, Libonias, Zonal Pelargoniums and the berried Solanums, first need consideration. All the hard-wooded plants, such

matter before that date. All very hairy-leaved plants must be syringed where necessary and not sponged. When engaged in watering the plants, closely observe how the water percolates through the soil; if freely, the drainage must be satisfactory; if it remains for some minutes on the surface of the soil the drainage should be examined by carefully turning out the plants, and any obstruction found should be removed.

Chrysanthemums should be housed before the flower petals begin to unfold; if left out night-dews and rain will cause decay of unfolding blooms. All plants that are to be retarded should be placed on ashes, slates or tiles on the north side of a wall or fence. Plants of all kinds needing stimulants should receive gradually weakening doses

till towards the end of September. During mild weather and while early and late dews prevail fully expose these plants and Cyclamen, as such treatment is most beneficial. GEORGE GARNER.

ANNUALS UNDER GLASS

JUST now, when annuals in the garden are giving of their best, my mind goes back to the spring months when many of them in pots were even finer. Safe from extremes of any kind, in a cool greenhouse or conservatory, they are encouraged to grow much taller than when in the open, and this reflects upon the flowers as to improve them almost beyond recognition, and an effect is produced which is not, in floral beauty, eclipsed by anything later in the season. In this lies the reward of sowing in August and September. Some prefer to wait until the new year, but only in rare cases do the plants equal those which have been given a longer growing season.

The culture of annuals in pots may be managed by anyone in possession of a slightly heated frame or greenhouse. In fact, in the matter of heat one can be too kind. Cool, comparatively dry and airy surroundings, with all available light when days are short, are what annuals must have to keep them dwarf and strong. Until November, fuel is wasted upon them, and it is the same in an average spring, from April onwards. In the period between, a temperature of from 45° to 50° Fahr. is ample.

Excepting Schizanthus, which are best sown about the middle of the present month, the remainder of those to be named here are best sown in September. Schizanthus require pricking out; the others, being more or less tap-rooted, succeed better when not put to this strain, and therefore need not be sown so early. In the initial stages a rich soil is not desirable, for over-luxuriant growth is very liable to damp off in the depth of winter. A poor soil makes for wiry plants and such as are capable of resisting ordinary extremes. Fibrous loam, with just a little leaf-mould, and enough coarse sand to ensure porosity, make a suitable compost. The details of sowing and potting have often been repeated and need not detain us. Pot off the August-sown plants singly into 5in. pots as soon as they are fit to handle. In the same size sow a pinch of seed of the other kinds, subsequently thinning the resultant plants so as to leave three or four to stand the winter. This is merely a precaution against accidents, for one, or at most two, is all that will be required at the final potting. A cold frame is the ideal place for the plants until October. Afterwards a shelf near the roof glass in a cool house is most suitable. In this position all that the slender roots call for is sufficient water just to keep them going. To give more than this is to court disaster. There are many days in winter when it will be possible to open the ventilators without creating draughts, and these opportunities should be fully utilised.

With the turn of the year Schizanthus will be well enough rooted to go into 5in. pots, and later into 7in. One shift into 6in. will best suit the remainder. A little old manure may be added to the compost at this stage, and in potting discretion should be exercised in the use of the rammer. Potting should, in any event, be deferred until it is seen that the plants are responding to the lengthening days. Some prefer to pinch the growths occasionally, but this is really not essential, and the operation may be left to individual discretion. As the plants increase in height they



A MOST USEFUL GREENHOUSE PLANT, PRIMULA MALACOIDES.

as Azaleas, were potted into larger pots several weeks prior to their being placed outside, or should have been repotted then; if they were not so dealt with there must not be any repotting of them now. The great thing is to have all plants quite clean when they are placed under glass in autumn, the leaves and stems free from soil, sediment and insects and the pots clean and free from weeds.

All growers of these plants are not able to house their stock in early autumn because room is unavailable, but, where early housing is practicable, it is desirable to carry out the work in good time. The colder nights chill the plants, so that many leaves fall off before Christmas; this is especially the case with Salvias.

There are two ways of cleansing the foliage, namely, by syringing and sponging; and after August 25 it is not good for the plants to be syringed, so close attention must be paid to the

week by week until housing time. After housing, none should be given for a week or so. Even clear water will be needed less frequently than during August. For a time it will be beneficial to the plants if free ventilation be the rule, with, maybe, a light shade during very bright sunshine.

POTTING PLANTS.

There are some kinds of plants, such as Arum Lilies, Chrysanthemums, etc., which have been planted out, that must be lifted and potted. This work should be done carefully, and a rather fine compost of average richness will be found helpful, also moderately firm potting. Some shade for a time is essential till the roots take to the new soil and begin to permeate it freely. Quite cool treatment is correct in their case; it would be a mistake to introduce them forthwith to artificial heat.

Plants of Primulas, Cinerarias and Calceolarias are, of course, in frames and should be kept there

will need a position on the side benches, and should be provided with neat stakes. A little fertiliser sprinkled over the surface of the pots when the latter are full of roots will be helpful.

Follows a description of some of the most reliable annuals for the purpose suggested.

Among Schizanthuses there is wide diversity of form. The Wisetonensis type is one of the oldest, valuable for its compact habit of growth, its freedom to flower, and wide range of colouring. In size, however, the flowers do not equal those of the hybrid types. Nearly every well known firm has its own strain of these, and it is only by actually seeing them in bloom—as, for instance, at Chelsea—that one realises of what these plants are capable. In the retusus section the flowers are almost orchid-like and in many shades.

Clarkias, perhaps, come next in importance. They make handsome pot plants up to 5ft. high from autumn sowing, and they cover themselves right from the base with brilliantly coloured double flowers in long loose sprays. The elegans varieties are those required and they may be had in salmon scarlet, pink, white, purple and rose.

Salpiglossis. It is only of quite recent years that the value of this annual for conservatory decoration has become realised, but it is rapidly gaining favour, since it has proved to be quite as easy to manage as any of the older kinds, and more striking than some. The colours vary through shades of yellow, red and purple, blue and gold, and crimson and gold, and the large funnel-shaped flowers have an exquisite velvety texture which well displays the colouring. When well grown the height is about 3ft.

Phlox Drummondii is also worthy of a place, for it makes a charming pot plant, and there is a variety of colour in sweet-scented flowers. Sutton's

Purity is exceptionally good, being pure white, and usually at its best about Eastertide. Pink Beauty and Fireball, a pleasing red, also are useful.

Nemesias of summer bedding fame are invaluable, for while there is no lack of tall growers, dwarf kinds are scarce. In a good strain the colours and markings of the flowers are remarkable and defy description.

Sweet Peas are, beyond all question, the finest annuals we have, and equally as reliable under glass as any. The only difference in the routine of cultivation set forth above is that these plants can be wintered safely in a cold frame until January, when they are brought indoors and potted in 12in. pots, or planted out, as the case may be.

Other suitable annuals include Mignonette, Nicotianas, annual Chrysanthemums, Godetias and Aloxsoas. J. T.

CORRESPONDENCE

LILIES FROM SEED.

ON page 388 your correspondent M. L. W. deplores the fact that *Lilium candidum* does not seed in this climate. I had always believed this to be so, but a few years back, in 1917, I think, a friend sent me a few pods of seed gathered in Salonica. From these I raised seedlings which again produced seed in their turn, which germinated well. But this year the strain is not setting seed well and I think it very possible that in this country it may gradually fall into line with our old strain of

suitable evergreens in winter. *V. Traversii* is a quick grower and can be raised from seed and cuttings, which fact atones for its refusal to shoot out healthily after being cut back. This evergreen will succeed in most soils, in sun or shade, though too dense shade will much hinder its flowering worth.—C. T., *Amphill*.

AN INTERESTING PALM.

YOU may be interested to hear that two rather unusual plants are in flower in Cheltenham, both in the public street. In St. George's Road two tall plants of *Dracaena indivisa* have borne large spreading heads of flower, and in Queen's Road a plant of *Phormium tenax* has thrown up four flower spikes some 8ft. in height, bearing many of its dull red flowers widely spaced on the stems.—J. P.

[*Dracaena indivisa* is a synonym for *Cordyline australis*, a plant of which, flowering outdoors near Madstone, was figured in last week's issue.—Ed.]

ROSES FOR WALLS.

IN my journeyings abroad I see many Roses on house walls which cannot be considered well placed. Dorothy Perkins seems to be an especial favourite for this purpose, but surely it has many drawbacks. To train it properly it is necessary either to wire the walls—an expedient I do not like—or to be continually driving in fresh wall-nails, which is destructive of the fabric. Then again there are so many places where one may plant the Wichuradana Ramblers effectively that it would surely be better to reserve house walls, many of them, naturally, having a southerly aspect, for choicer climbers, such as the many fine climbing Noisette, Tea and Hybrid Tea Roses, to say nothing of other beautiful and not over hardy shrubs which would succeed there. Especial favourites of mine are the small flowered but wonderfully graceful Bankstan Roses, but how seldom, nowadays, does one see them! If less striking as regards colouring than Dorothy Perkins, how much more beautiful are they as regards pleasing form and gracious arrangement of blossom.—MIDLANDER.

HOW TO TRAP MOLES.

HAVING read your reply to N. P. H. (August 5, page 362), on "How to Trap Moles," may I give some results of my experience in a garden infested with moles? Chose a place for your trap in a tunnel between two mole hills. Open a moderate hole with a trowel as cleanly as possible and leave it smooth and firm where the mole is to pass. Set the trap as near the middle of the tunnel as you can judge, and place flat crocks or stones on the right and left hand at either entrance to the trap, so disposing them as to guide the mole into its jaws. Cover the opening with turf or anything handy. You must be careful not to let any loose earth fall into the hole, nor to tread in the tunnel anywhere near the trap. Otherwise the mole will heave the obstructing earth before him and so spring the trap without hurting himself. I do not find that the mole pays any attention to the taint of the human hand used in smoothing down the surface of the tunnel and in handling the trap, nor is he scared by the gleam of daylight from above. The fact seems to be that the mole, having no natural enemies underground, is the most unsuspecting beast in the world. You may tread heavily close to the spot where he is heaving up a molehill provided you do not tread on his tunnel, without causing him to stop work. A more suspicious beast would pause on finding an obstruction of unusual shape and material barring his



THE YELLOW BANKSIAN ROSE.

candidum and become sterile.—F. HENNEPI CHAPMAN, *Rvc.*

A GOOD EVERGREEN SHRUB.

OF the large and varied genus *Veronica*, *V. Traversii* is one of the hardest of the shrubby section and, when well flowered, one of the most showy. We have several quite large specimens here—the best being about 10ft. to 12ft. across and 6ft. to 7ft. high—and though they have now, the last week in July, just passed out of flower, no shrubs could have been more effective, so massed with blossom were they. The short spikes of bloom stand up well above the box-like foliage, while the individual flowers are of a pale mauve shade. When not in flower this shrub can be said also to be reasonably attractive in growth and leafage, while pieces of the latter are not to be despised by the floral decorator when looking for

path. Not so the mole. He wrestles with it until it gives way, and thus his very fearlessness is his undoing. The conclusion is—set your trap so that the mole has an unobstructed pathway into its jaws and his destruction is certain.

I have also got rid of a mole, before he had had time to make many tunnels, by playing pieces of carbide of calcium in the latter, but where a plot of ground is riddled with a network of runs this method is not successful.—A. C. C.

THE RASPBERRY AS A SAPROPHYTIC PLANT.

WHILE walking round a pool in Cannon Hill Park, Birmingham, the other day, a considerable amount of plant growth was noticed on an old branch of a tree (probably Ash), which has been lying partly covered in shallow water for a number of years. On examination, the plants proved to be the common wild Raspberry (*Rubus Idaeus*, Linn), together with some hardy Ferns and a few varieties of Grasses. A few of the plants were lifted, the roots of which had permeated the decaying bark and cortical tissues. No soil could be seen and, it might be added, very little decaying matter had been collected. The plants appear quite healthy and are growing just above the normal water level. They are fruiting well.—ETSON.

IMPROVING THE ROCK GARDEN.

THE rock garden is now a regular feature of most gardens, and is the part which often has the greatest share of its owner's affection and attention. Yet people are still heard to regret that its beauty is comparatively short-lived. They speak of it as a part of the garden to be enjoyed in the months of May and June only, except for little specimen plants dotted about, which are interesting from a gardener's or botanist's point of view, but not generally attractive or effective in colouring. This is chiefly the case because it is not generally realised that by a careful selection of plants the charm of a rock garden may begin with the first mild spell of weather in the new year and continue until the autumn frosts become severe.

Lithospermum prostratum, *Alyssum saxatile*, *Arenaria montana* and *Aubrieta*, which form such gorgeous patches of blue, yellow, white and mauve that they are admired by all who see them, will find serious rivals early in the year if *Chionodoxa sardensis* or *Scilla sibirica*, *Eranthis hycnads*, *Galanthus nivalis* or *Leucopium vernum* and *Crocus Sieberi* are planted in drifts. These are quite as easy to grow if equal attention is paid to their tastes in the matter of soil and position, and the only difficulty will be to choose a place where their leaves can be left to mature and furnish the bulbs for the next season.

In similar fashion the rock garden may be made a place well worth visiting in the autumn if *Gentiana Farreri*, *Cerastostigma plumbagnoides* and *Crocus speciosus* are planted with a somewhat lavish hand, all of which are easy to grow and propagate. The late summer season can be provided for by free plantings of Alpine *Dianthus* in variety and of several kinds of the smaller *Campulanas*, a selection of both of which may easily be made from any of the horticultural trade catalogues dealing with this class of plant.

The following may also be relied upon to give pleasure and satisfaction: For the early part of the year, *Hyacinthus azureus* (often the mistle of the season), *Anemone blanda*, *Crocus Imperati*, *C. bulbosus*, *C. Susianus*, *Saxifraga apiculata*, *S. Burseniana*, *Adonis amurensis*, *Cyclamen coum*, *Iris reticulata*, *I. r. var. histrioides*, *Primula denticulata* and its varieties, *Helleborus niger* and *H. orientalis* in variety. For the autumn, *Crocus zonatus*, *C. longiflorus*, *Sedum*

spectabile, *Schizostylis coccinea* and *Colchicum* in variety (where there is room for their large leaves to develop in the spring). Where there is space for small shrubs the following should be included: *Rhododendron dauricum* or *micro-latum*, *Daphne Mezereum* (both the white and the pink forms), *Zauschneria californica* and *Cotoneaster horizontalis* for its berries.

As the best season for making alterations and additions to the rock garden is approaching, it would be wise to decide what is to be done without further delay, so that the plants and bulbs may be got in early in September and get established before the cold weather; indeed, it will be better if the bulbs are planted at once. They will do better and flower earlier.—A. E. W.

WHY "AMETHYSTINE"?

CAN any reader of THE GARDEN explain the meaning of the word "amethystine" which frequently occurs as the specific name of some plant with blue flowers? No doubt it is in consequence of its being so used in botanical names that we often see in trade catalogues the colour of some plant that has flowers of a good pure blue described as a "brilliant amethystine blue." Why amethystine? An amethyst is a gem whose colour is distinctly a reddish purple: except in the best examples a rather light or washy reddish purple. It is certainly no compliment to a flower of pure blue colour to compare it with that of an amethyst. It sounds like a slip-slop or boggle of terms. How did it arise, and when and why? Was it originally a slip of the botanist's pen, or of his intellect? Did he perhaps mix up amethyst and sapphire? Sapphire is certainly a pure blue, and yet I cannot remember seeing it applied to a flower as a colour word. And if it is merely an error of ignorance or carelessness, how is it that it has gone on without correction until it has become so familiar that, without accepting it as a correct colour definition, one knows that when the word amethystine is used it is meant to denote something blue either of flower or stem?—G. J.

THE JAPANESE WISTARIA.

IT is quite remarkable to notice how little this very desirable plant is known in gardens, especially in the northern parts of the kingdom. It is decidedly a hardier and less requiring plant than the universal Chinese Wistaria that everyone knows and admires, and yet one may go to garden after garden and nursery after nursery and never find one specimen to look at or to buy! Wistaria multiplex, the Japanese Wistaria, has several advantages over the Chinese form, in that it will thrive in strong, cold calcareous soils where the Chinese plant can hardly exist, and it is not only hardier, but later in its flowering period, so that it often escapes the frost that cuts off the earlier sorts. In the North of England it is really the most reliable and hardy climber, flowering more freely on an exposed pergola and in more adverse conditions of weather than the well known Chinese plant. The flower racemes are much longer than the Chinese Wistaria, and the flowers are decidedly smaller. The colour varies considerably, as does also the length of the clusters of bloom, because this variety seeds abundantly in many parts and especially in Japan, therefore propagation is made by seedling plants rather than by the much more tedious method of layering. This, however, has a drawback, and that is that the seedlings vary greatly, so that one can never be sure if one will get a good or an inferior variety. The very finest and richest coloured varieties are to my mind even more beautiful than the Chinese plant we all love. The white flowered form is specially desirable, as not only are the racemes of great length

and purity of colour, but they are three weeks later than the coloured forms, while the white-Chinese form is earlier than even this type, and almost always suffers in consequence. The Japanese forms also have the advantage of the leafage being more advanced, so that the racemes of flowers are set off by the green foliage.

If nurserymen will propagate only from the finest types the Japanese send over, I think the public would soon be convinced of the value of the Japanese Wistaria. As it is, it is disappointing to buy a plant that turns out an inferior variety, pale in colour and short in raceme, whereas the raceme should be a yard long and of a richer colour than the Chinese. As for the white it is at its best far superior to any of the Chinese white forms.—E. H. WOODVALL, *Scarboro'*.

SWEET PEAS & ROSES AT GLASGOW

THE third annual exhibition of the Scottish Sweet Pea, Rose and Carnation Society was held in the St. Andrew's Halls, Glasgow, on August 2 and 3. Notwithstanding the unfavourable weather experienced in Scotland this summer, the promoters had every reason for congratulation on the success which attended the Show. In every class, with the exception of that for Border Carnations, the entries showed a considerable increase over those of last year. The quality of the exhibits was of rare excellence, and one seldom sees Roses and Sweet Peas exhibited in such fine condition. Competent judges expressed the opinion that the Scottish Show was a good way ahead of that held recently at Eastbourne by the National Sweet Pea Society.

The prize offered for the best six blooms of new varieties of Sweet Peas was awarded to Mr. John Smellie of Helensburgh.

There was keen competition for the Burpee Cup, as most growers seemed keen to secure this trophy. It was won by Mr. George Bowness, Busby, who staged twelve vases of distinct varieties, all fine outstanding blooms, the most noticeable being Austin Frederick Improved, Private Jack Smellie, Mrs. Bowness, Picture and Hercules. The second prize went to Mr. James Paul.

Mr. Bowness was also leading winner in the class confined to nurserymen. In the Amateurs' Section the individual exhibits were well grown and attractively staged. A group of nine vases shown by Mr. James Paul, Killearn, gained the first prize here, and the same exhibitor also carried off the Eckford Cup.

Roses were also specially fine, the gold medal for the best bloom in the Show being awarded to Messrs. Hugh Dickson, Limited, Belfast, who were also winners of the Polytechnic Cup for thirty-six blooms of Roses. In the Amateur Class the class for twenty-four distinct varieties was very keenly contested, first prize going to Mr. J. E. Turner, Gourrock. The cup for blooms in the Amateur Section was won by Mr. James Kerr, Stewarton, with splendid specimens of Mrs. Foley Hobbs. While for three vases of distinct varieties, Mr. J. G. Williamson, Giffnock, was awarded the Turner Cup.

Among the trade exhibits, Messrs. Dobbe and Co., Edinburgh, displayed a fine collection of Sweet Pea blooms which included, among others, Hawmark Tangerine, Picture, Majestic, George Sawyer, Royal Purple, Dorn, Renown and Melba.

Messrs. Lowe and Gibson, Crawley Down, Sussex, staged an attractive collection of Gladiah, also of Border Carnations and other flowers. J. McG.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

General Work.—The month of July was an excellent one for getting the main supplies of all the Brassica family established and all look promising. If not already planted and room can be found there is still plenty of time for putting in Coleworts and the Portugal Cabbage (Couve Tronchuda). The latter may, with advantage, be more extensively used where large kitchen supplies are always required, for it may be generally relied upon to stand the winter well. This Cabbage not only provides acceptable hearts for using, but the mid-ribs taken from the large leaves are an excellent dish and should be cooked in the manner of Sea Kale. As it is a robust grower on well worked soils, a distance of 2ft. should be allowed between the rows and 18ins. between each plant. For Coleworts, about 20ins. is enough between the rows and 15ins. from plant to plant. Leeks for late use should be got in as soon as possible, dropping them in holes made with a long dibber or bar of sufficient depth to allow for a well blanched stem. Keep the hoe going as much as possible between developing crops.

Lettuce.—Besides sowing some of the recognised winter varieties, some seeds of early maturing kinds should be sown on a warm border, taking care to sow thinly and thin early. Given an open, favourable autumn some useful salading will be available until quite late from this sowing.

Endive.—Any necessary thinning or transplanting should be seen to before the plants become crowded or drawn. Where the plants are remaining in drills where sown thin out to about a foot apart. Water should be afforded during dry weather.

The Flower Garden.

Rambler Roses.—These plants should be overhauled as soon after the flowering period as convenient. The pruning chiefly consists in the cutting away of as much as can possibly be spared of the old flowering wood. This will concentrate the energies of the plants upon next season's flowering growths, and should these be weak and unsatisfactory much may be done to improve them by the end of the season by giving a few copious waterings with liquid manure water.

The Hardy Fruit Garden.

Summer Fruiting Raspberries.—Remove the nets as soon as the crop is cleared and cut to the ground all canes that have been bearing fruit this season, also any weakly new growths which are not required. With so many pressing operations on hand at this season of the year it may not be possible to stop and regulate next year's fruiting wood, but care should be taken that this is sufficiently secure against damage by wind or other agencies. Should autumn fruiting varieties be grown, see that the nets are in position at once if not already done.

Gooseberries.—The season of these fruits for dessert purposes may be considerably lengthened by planting trees in a position with a northerly aspect. Where a portion of a wall can be spared for cordons, they do well and give a supply of fruit for many weeks after gathering is over from trees in warmer aspects.

Vines.—Keep all lateral growths well in subjection so that plenty of air and sunshine can penetrate, without which it is impossible for the Grapes to finish as they should. Feed the plants liberally if carrying good crops and protect all bunches from birds and wasps, etc.

H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Brussels Sprouts.—Where "autumn sowing" is practised the work may be carried out now. Sow thinly in rows 12ins. apart and leave in the seed bed until spring. Brussels Sprouts stand the winter well in most districts. It is always wise to accord them a sheltered site when in the seedling stage, as cutting winds prove more harmful than frost.

Savoys also may be sown now and treated in like manner to Brussels Sprouts.

Cauliflowers.—A small sowing of Early London and Walcheren may be made now in the open. In northern gardens it is wise to prick out the

seedlings at a later date into a cold frame and winter in this way. In more favourable localities the remainder may be pricked out at the foot of a south wall and afforded some shelter during severe weather.

Celery will be growing apace, and forward hatches will now be ready to be partly earthed up. Clear away all superfluous or decayed growths from around the heads before earthing up takes place. Encourage late crops by waterings of liquid manure.

Tomatoes.—In pits where early crops are about past, the plants should be cleared out at the first opportunity and the structure thoroughly washed in readiness for the reception of other plants. Save the soil that the Tomato plants have been growing in, as this, if stored in an open shed, will prove useful in the spring for numerous purposes—being rich in various unexhausted qualities, and finely adapted for potting purposes where Dwarf Peas and French Beans are forced.

The Hardy Fruit Garden.

Strawberry Runners.—Where these have been rooted in small pots for spring forcing they may now be litted in preparation for moving into their fruiting pots. When potting, use a rich loamy soil and place the pots on a layer of sifted ashes in an open situation. Spray the foliage freely with clear water on warm afternoons.

Gooseberries and Currants.—Remove the nets from these immediately the crops are gathered and use the Dutch hoe freely among the bushes where the surface soil is caked. This will assist in keeping the ground clean and porous for the remainder of the season.

The Flower Garden.

General Work.—The time is not far distant when preparations must be made for securing the necessary stocks of various plants for filling the flower beds next season. Cuttings of Geraniums, Heliotropes, double and single Marguerites, Fuchsias, etc., should be secured and rooted at an early date. Geraniums and Marguerites root best when allowed plenty of air, just shading from the strongest rays of the sun. Place the boxes along the foot of a sheltered wall and remove to safe quarters on the first indication of frost.

Climbing Roses.—Tie in the strong young growths necessary for replacing older wood. Remove others not likely to be required and water thoroughly with liquid manure so that the plants may be further invigorated.

Mixed Borders require frequent attention at this time if tidiness is to be maintained. Additional staking and tying will be necessary or the autumn gales will cause considerable damage among the taller growing plants. Cut back or trim plants as required and keep weeds in check.

Sweet Peas.—Owing to the continual wet Sweet Peas have grown to an unusual height this season, and in many gardens it will be found necessary to augment the existing stakes. Where the plants are in rows, strong poles may be inserted every few yards and several rows of binder twine stretched between them.

JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

GREENHOUSE AND CONSERVATORY.

Dimorphotheca Ecklonis.—This attractive South African plant is very useful for the greenhouse during spring and early summer. It is easily propagated at this time by means of cuttings placed in a case in a cool house. The young plants require frequent stopping to induce a bushy habit, but this should not be done later than January, as this plant has a definite flowering season and if stopped later than this the chances are that no flowers will be produced.

Dendromecon rigidum.—This beautiful Californian Poppywort, although hardy in the south and west when planted against a wall, should be especially in the colder parts of the country, more generally planted in the cool conservatory or greenhouse. The other week I saw a splendid specimen of it in the nursery of Messrs. R. Veitch and Son, Exeter, where it was planted against the back wall of a cold greenhouse. This plant is generally regarded as being difficult to propagate, but I have never found any difficulty in rooting it by means of short twiggy shoots, inserted in pots of sandy soil, standing them under a bell glass in a cold house. Like most plants of this order

it does resent disturbance at the root and great care must be exercised when potting off the young plants.

Aristea (Witsenia) corymbosa is a beautiful blue-flowered plant hailing from South Africa, and belongs to Iridaceae. It is unique in this order in that it is hard and woody in character. It is by no means an easy plant to propagate, but is best done by means of cuttings inserted some time during this month. They should be put into pots of fine sandy peat, and stood under bell glasses in a case in a cool house. If the cuttings are taken from healthy plants there should be little difficulty in rooting a good proportion of them. Here, as in the propagation of all choice plants, the covering glasses should be wiped dry every morning. This plant grows well in a compost of sandy peat, using it in a rough and lumpy state for the older plants. Ample drainage must be given and careful watering is essential at all times, as the fleshy roots are apt to be injured by over watering.

Pimelias include quite a number of desirable greenhouse plants, but at the present day very few of them are in cultivation. Some of the best are *P. P. ligustrina*, *spectabilis*, and *ferruginea*. The two former species make fine specimens if planted out in a well drained bed in the cool conservatory. They grow well in a compost consisting of sandy peat and a little good medium loam. After flowering they should be trimmed back so as to keep them close and well furnished. *P. ferruginea* also does well when planted out, and it is the best species for pot culture, being of a compact, bushy habit. It produces its rose red flowers in great profusion. Good plants can also be grown in quite small pots. *Pimelias* are easily propagated by means of cuttings during the spring months, and again during August, when plenty of good cuttings are available, as the plants are completing their growth. As is usually the case with woody plants of this character, short twiggy shoots are best for cuttings, and they usually root readily in pots of sandy peat, covered with a bell glass and stood in a cool house. Really the best conditions for rooting all or most of the so-called hard-wooded greenhouse plants, is a case with slight bottom heat, but with no top heat in the house. In the absence of such ideal conditions a cool house is best for propagating this class of plant, the process of rooting taking, in most cases, a little longer.

Ericas.—Most of the greenhouse Heaths may be successfully propagated during this month, as plenty of cuttings in the right condition can usually be got at this time. They will all root in fine sandy peat, and the cutting pots should be carefully prepared, being at least half filled with drainage. The soil should be rammed very firm and the surface of the pots covered with clean silver sand. The required number of pots should be prepared the previous day, watering them well to settle the soil and thus have it in suitable condition for the reception of the cuttings. The condition of the soil is important, otherwise it is by no means easy to firm the very small cuttings that are used. I have frequently seen amateurs insert cuttings in too dry soil, with the result that when they watered them in air bubbles would lift the majority of cuttings up again. Cuttings must be made from the very small twiggy growths, taking them an inch or even less in length. The leaves should be carefully trimmed off and with some practice this is best done with the thumb and finger, but of course the knife must be used for varieties where the leaves do not rub off readily. The cuttings should be carefully dibbled into the prepared pots, afterwards watering them well in with a fine-rosed can and covering with bell glasses. The above remarks may be applied to the propagation of most hard-wooded greenhouse plants.

J. COULDS.

Royal Botanic Gardens, Kew.

FORTHCOMING EVENTS.

- August 22.—Royal Horticultural Society's Fortnightly meeting.
- August 23.—Westerham Horticultural Society's Annual Show. Helensburgh and Goreloch Horticultural Society's Annual Show. Highland Horticultural Society's Annual Show.
- August 24.—Aberdeen Flower Show (3 days).
- August 25.—Dumfries Horticultural Society's Show (2 days).
- August 26.—Dumfries and District Horticultural Society's Show. Ulverston Garden and Allotment Holders' Association Annual Show.

Trials of Violas at Wisley.—The following awards have been made by the Royal Horticultural Society to Violas after trial at Wisley.

AWARDS TO BIDDING VIOLAS.

Award of Merit.—Snow Queen, sent by Messrs. Dobbie; Purity and Snowflake, sent by Messrs. Forbes. The above three varieties bracketed as practically synonymous. Swan, Mary Burton and Archie Grant, sent by Messrs. Dobbie; Lady Knox, Mrs. Alsop and President, sent by Messrs. Forbes; W. H. Woodgate and J. B. Riding, sent by Messrs. Dobbie and Messrs. Forbes; Royal Sovereign, sent by Mr. Stark; Dr. McFarlane and Dorothea, sent by Mr. Crane; Red Edina, sent by Mr. Searlett; Moseley Perfection, sent by Messrs. Dobbie, Messrs. Forbes and Messrs. Harrison; Margaret Wood, sent by Messrs. Artindale and Messrs. Dobbie; Maggie Mott, sent by Messrs. Forbes, Messrs. Dobbie and Mr. Crane.

Highly Commended.—Blanche, Primrose Dame, Bertha, John Forbes, Wm. Daniels and Jackanapes, all sent by Messrs. Forbes; Kingcup and Kitty Bell, sent by Messrs. Dobbie and Messrs. Forbes; Walter Welsh, sent by Messrs. Dobbie; Langeme Harrison, Pride of Damas and Anne Lobson (the last two bracketed as practically synonymous), sent by Messrs. Harrison; Bertha, Newton Mauve and Peace, sent by Mr. Crane; John Quarton, sent by Messrs. Forbes and Messrs. Harrison; Mauve Queen, sent by Messrs. Dobbie, Messrs. Forbes and Mr. Crane; Alexandra, sent by Messrs. Dobbie and Messrs. Artindale; Admiral of the Blues and Mrs. Moss, sent by Mrs. Dobbie and Mr. Elliott. The above two varieties bracketed as practically synonymous. Councillor Waters, sent by Messrs. Artindale; Dindryan, sent by Messrs. Dobbie and Mr. Crane; Mrs. Chichester, sent by Messrs. Forbes and Mr. Crane; Admiration and Jubilee, sent by Messrs. Forbes and Messrs. Dobbie. The above two varieties bracketed as practically synonymous.

AWARDS TO VIOLAS FOR EXHIBITION.

Award of Merit.—Master Banks, Nurse Cavell and Bessie Ferguson, sent by Messrs. Harrison; Mrs. Jas. Smith, sent by Messrs. Artindale; Mrs. J. Lawrence, sent by Messrs. Forbes; Moseley Perfection, sent by Messrs. Forbes, Messrs. Dobbie and Messrs. Harrison.

Highly Commended.—Criss Littlejohn, Mrs. Andrew Stevenson, Mrs. D. Stevenson and Mrs. McEwan, all sent by Messrs. Harrison. The last two varieties bracketed as practically synonymous.

AWARDS TO VIOLETTA TYPES OF VIOLA.

Award of Merit.—Violetta, sent by Messrs. Forbes and Messrs. Dobbie.

Highly Commended.—Princess Mary (Violetta), Gold Crest Violetta and Queen of the Year (Violetta), sent by Messrs. Forbes; Lyric (Violetta), sent by Messrs. Dobbie and Messrs. Forbes.

AWARDS TO VARIETIES OF VIOLA GRACILIS.

Highly Commended.—V. gracilis J. B. Taylor and V. g. Lady Crisp, sent by Messrs. Clarence Elliott; V. g. Purple Robe, sent by Messrs. Dobbie.

Trial of Carrots at Wisley.—The Royal Horticultural Society will carry out a trial of Carrots growing in frames during the coming autumn and winter. The Director, R.H.S. Gardens, Wisley, Ripley, Surrey, will be glad to send entries to those desiring to enter varieties for this purpose and one packet of seed of each variety should reach him on or before August 31.

For Rock Garden or Border. That Argentine one, *Verbena venosa*, is worthy of wider appreciation than it now receives, for not only are its corolla petals purple flowers, raised on stiff 15-in. stems, beautiful, but they are borne during August and September, when colour is none too plentiful in the garden. For the margins of borders, *V. venosa* is

probably the hardest of its race, a true perennial and one that in a free soil will withstand severe frosts without injury. It is, moreover, practically immune from mildew and looks bright and cheerful in the dampest of autumn weather. In very cold localities, or on uncongenial soil, the roots may be lifted and stored in a cold frame over the winter. Propagation is easily affected by off-sets, but the plant produces seed freely and will often appear self-sown in gardens where the soil is warm and gritty.

A Quaint Scabious.—Often catalogued as *Pteroccephalus Parnassi*, *Scabiosa Pteroccephala* is a noteworthy plant in the August rock garden, making a dense cushiony mass of grey, hoary foliage which forms an admirable setting for the large, rosy-lilac pin-cushion-like flowers which are raised just clear of the leaves. It is a plant of the easiest culture in any light soil in full sun, and though it is apt to suffer in winter it is seldom killed outright. It hails from Greece.

A Late-flowering Azalea.—A Californian species, *Azalea (Rhododendron) occidentalis* will thrive in any non-calcareous loam and it does not object to the half shade of woodland trees. It makes a good-sized bush and is particularly valuable on account of the fact that it does not bloom until most of its kind have gone over. In some seasons it may open its white, or pinky-white, sweet scented flowers soon after midsummer, but the normal season of blossoming is late July. The broad, glossy leaves are shed in autumn and the shrub appears to be perfectly hardy. By using it in hybridisation with earlier kinds, *R. occidentalis* has been very instrumental in extending the flowering season of this beautiful race of shrubs.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

STOCKS AND ANEMONES DYING (C. B. R., Berk.).—The mellow on the roots of the Stocks our correspondent has examined may be the cause of the plants dying, in which case very little can be done. The specimen of Anemone sent was too dry on receipt to furnish any reliable information. The blackening of the stem may be due to trying conditions of temperature, while the root looks stunted and ill nourished. If our correspondent cares to send further specimens packed in damp moss, we might be in a better position to advise.

TREES AND SHRUBS.

CYPRESS TREES DYING (A. W., Stockport).—It is unlikely that the large Cypress trees will recover since so much of the foliage is dead. Certainly the means that our correspondent suggests (to defoliate the trees) are not likely to help them. The dead may be cut out and the living parts syringed frequently as the only chance of saving them. The trees were probably too large to move in the first place. Only when such trees are lifted with a very large mass of earth or transplanted practically every year before they are to be moved is there much chance of success.

TREES OR SHRUBS FOR CHALKY HILLSIDE (Enquirer).—The question of moisture for trees or shrubs during June and July arises in connexion with newly planted trees. They can grow from seeds because they have time to root deeply before they have much foliage to support. Japanese Cherries would be appropriate, but it would be desirable to dig the soil 2ft. deep if possible to give the trees a start. They cannot be reared from seeds, but small trees would be the most likely to take hold. Our native wild Cherry (*Prunus Avium*) and the double variety (P. A. flore pleno) should not be overlooked. The White Beam Tree (*Pyrus Aria*) would be effective in spring when in bloom, all the season when in leaf, and in autumn when the fruits change to orange. A quantity of St. John's Wort (*Hypericum calycinum*) planted near the foot would climb up the hill and cover the ground as few other plants would. It succeeds well on chalk in sun or shade.

ROSE GARDEN.

ROSES ATTACKED (A. M. T., West Calder).—The shoots of the Roses have been attacked by the Rose tortrix caterpillars, which have fed on the buds. None is present now, but probably they were of one of the common species. If only a few Roses are concerned, pressure of the attacked buds between finger and thumb is the most satisfactory method of dealing with them. There is also present the empty shell of a green fly that had been parasitised by one of the green fly ichneumonids,

showing that an earlier attack of green fly had occurred, for which the best treatment is spraying with a nicotine wash made by dissolving 3ozs. of nicotine and 4lb. of soft soap in 40 gallons of water.

FRUIT UNDER GLASS.

NECTARINE FRUITS CRACKING (J. R., Colwall).—In the absence of specimens we can only state that in our own experience of Nectarines in unheated houses too wide a variation in temperature from midday to midnight, accompanied by syringing the trees with water at too low a temperature, invariably result in spotting and cracking of the fruit. Moreover, moisture condensing on the fruit is apt to chill the epidermis, so that a few of the surface cells may die and turn brown, and then as growth and swelling of the fruit continues splitting or growth cracks may follow.

FRUIT GARDEN.

PEAR FOR IDENTIFICATION (B. S., S.W.18).—The Pear sent is probably Summer Beurre d'Arenberg, but the fruits were not sufficiently matured to say with certainty. This Pear should be picked when just ripe, as can be easily tested by lifting the fruit gently and if it falls into the hand with little leverage and without pulling it is ready. The actual time varies in different localities.

APPLE COX'S DRANGE PIPPIN UNSATISFACTORY (C. J. L., Braughing).—These leaves were from a "Cox's" nine or ten years old grown as an espalier. Our correspondent gives us no account of cultural operations, i.e., tillage or manuring, two important considerations. The leaves are mottled yellow and pale green, with the edges slightly browned, symptoms classed together as leaf scorch. Such scorching may be caused by faulty or unhealthy root conditions or by excessive heat affecting the leaves. Where due to root conditions the soil may be low in organic matter content, deficient in available potash and phosphates or lacking in lime. If the tree concerned is grown against a wall, scorching may be largely due to high temperature, with lack of sufficient organic matter in the soil as a predisposing cause. If our correspondent would inform us of his system of manuring and give particulars as to soil, etc., we might probably be able to give more detailed advice.

MISCELLANEOUS.

LAWN MOWINGS, CUTTINGS, ETC. (J. W.).—The leaf mould would have to be sifted for seed sowing and for cuttings and that would remove the lawn mowings, which would be injurious to seedlings and also to pot plants if used in quantity. Lawn mowings would stick together in masses, rot, hold too much moisture, keep air from getting to tender young roots, and so destroy them. Leaf mould should not be sifted for potting or planting, but the lawn mowings should be cleared away as well as possible to get clean leaf mould. Cuttings of Syringa (Lilac), Philadelphus and Forsythia can be inserted in pots of sandy soil now and kept close till rooted in a cold frame. They would root more quickly if placed in a close, moist pit or house with bottom heat. Plum-bago will root best in spring in a propagating or close case. Cuttings of young shoots, 3ins. long, with a heel are best. Cuttings of *Prunus triloba* and all the rest, except Plum-bago, can be inserted in a cold frame after the leaves drop in autumn. Any or all of them can be layered at the present time. Cuttings for pots should be 5ins. long, for the cold frame in autumn 9ins., inserting them 5ins. or 6ins. deep. *Ceanothus azureus* and *C. Gloire de Versailles* would be the most likely to succeed in Yorkshire, if trained to a wall facing south. The shoots of Plum-bago can be pruned back half their length now, and in October shortened to 1in. The old stems should not be cut back, but some of them may be cut away in October if too numerous for the space. A book that deals thoroughly with the propagation of shrubs is "Trees and Shrubs for English Gardens." This book is published at this office and a prospectus will be sent to our correspondent if he will kindly forward his name and address.

NAMES OF PLANTS.—J. W.—1, *Lilium pardalinum*; 2, Probably *L. Martagon* (specimen very poor); 3, *Sedum spurius* and var. album; 4, *Alechemilla alpina*; 5, *Veronica Traversii*; 6, *Fuchsia* sp. probably *flava* (specimen poor); 7, *Hypericum Androsænum*; 8, *Arundinaria Fortunei*; 9, Probably *Daxalina* sp. (specimen too scrawpy); 10, *Fuchsia gracilis*.—E. M. H.—*Rhus Cotinus*.—T. B.—1, *Chrysanthemum Parthenium*; 2, *Stachys Betonica*; 3, *Funaria officinalis*; 3, *Prunella vulgaris*; 5, *Lycynis divica*; 6, *Hypericum perforatum*; 9, *Lotus corniculatus*; 10, *Cereus luteotubus*; 11, *Valeriana officinalis*; 12, *Betaeum* sp. (specimen too poor for correct identification).—B. B. F.—Shoots of *Pinus major*.—Hereford.—*Berberis Carnation*: 1, The Ride; 2, Raby Castle; 3, Banner.—C. F., Ascot.—1, Rose Dorothy Perkins; 2, *Glearia Hauska*.—L. St. J. M.—*Spiraea Menziesii*.—Mrs. K., Oldstock.—1, *Salvia petens*; 2, Probably *Embothrium coccineum*.—R. C. W., New Eltham.—1, *Lycynis coronaria* Walker; *Trachymene* (cruella, a native of Australia (blue flower).

CATALOGUES RECEIVED.

Mr. John B. van der Schoot, Hillegom, Holland: Bulbs, Messrs. R. Wallace and Co., Limited, The Old Gardens, Fimbridge Wells; "Iris and Iris Gardens," a catalogue of all sections of Irises with cultural hints, profusely illustrated.
Mr. Anthony C. van der Schoot, Hillegom, Holland: Bulbs.
Messrs. William Paul and Son, Waltham Cross Limited, Waltham Cross, Herts: Bulbs, Camellias and Spring Flowering Plants.

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EARLY AUTUMN FLOWERS

EVERY practical gardener knows that it is far from easy to keep flower borders interesting in early autumn. One by one the summer flowering plants become desolate until, in early September, few hardy flowers remain. A few second spikes of Delphinium, masses of the starchy Aster acris, and the ever-flowering Nepeta Mussini will provide welcome blue shades, and the later perennial Sunflowers and Solidagos will afford abundance of fairly showy yellow, but for the main colour masses, reliance must be placed upon Dahlias, Gladioli and Early-flowering Chrysanthemums. In all three families yellow and apricot tones are obtainable, also shades of pinkish mauve. Rich crimsons and salmon pinks are common to Gladiolus and Dahlia, and ruddy bronze shades are found in the early Chrysanthemum. For smoky tints of mauve and heliotrope we must rely upon the Gladiolus; indeed this flower displays them better even than the Carnation.

Since so much reliance must be placed upon these three families of plants, it is wise, if time permit, to visit nurseries and private gardens in search of suitable colour combinations. It will be found that in the Dahlia, soft art shades are especially prevalent in the Pæony classes, while brighter colour should be sought in the Decorative, Pompon, Single and Star groups. Almost all shades may be found among the Cactus sorts, but these do not, as a rule, make such effective splashes of colour in the border as do the other groups mentioned. A good primrose yellow Pæony-flowered variety is Nadia, admirable in colour and appearance for associating with crimson and purple tones in other flowers. For a charming shade of blush pink, Lillie is perhaps the best. Other good ones include Cassandra, orange-buff; Dream, a pleasing salmon shade; Ethel May, bronzy yellow; Gladys, salmon-buff; Jenny, soft rose; Polar Star, white, and Progress, salmon, fine erect habit. Richer colours are also to be found in this section, such as Gipsy Queen, dark crimson; Salome, bright orange; Luna, deep yellow; Sparkler and Martial, almost scarlet; Toreador, bright crimson, and Maggie, salmon rose flushed orange.

Star Dahlias are preferable to the exhibition singles for the mixed border and every one of Messrs. Cheal's varieties in this class is worthy of a place. White Star should certainly be included and of the others, personal taste inclines to Coral Star, Field Star, Yellow Star, Crimson Star, Reigate Star and the older but very desirable Crawley Star.

The great advantage of Dahlias is the length of their flowering season. They may always be relied upon to remain in full blossom until the first

sharp night frost. The Gladiolus, on the other hand, is short lived. By planting at a suitable season, however, its effect may be obtained just when it is most wanted and it has the grace and dignity so common among bulbous plants. The finish and texture of the flowers, too, are really beautiful.

Even a decade ago Gladioli were divided into numerous classes. Groff's, Kelway's, Childsii, Lemoinei, nanceianus, etc., but the ever increasing popularity of the exquisite primulinus hybrids has practically divided them nowadays into two classes, the primulinus hybrids and the large-flowered sorts. The Americans, always to the fore front with this stately flower, have lately evolved a large-flowered crimped or ruffled strain which will in all probability be worth placing in a class by itself.

Of the primulinus hybrids with their fine stems and generally refined colouring, the main thing, so it seems to the writer, is to avoid the sorts which are little more than miniatures—some of them hardly that—of the large-flowered type. The characteristic hooded form ought certainly to be preserved.

Following are a few first-rate varieties, but there are others which would make equal or greater appeal to many tastes. Myra may be described as giving an effect of rather salmony apple-blossom. Scarletta is one of the most brilliantly coloured, the total effect approaching to scarlet. Among yellows, Messrs. Kelway's claim for Golden Girl, that it is the nearest to rich yellow, should probably be conceded. It approaches that colour from the same angle as Lady Hillingdon Rose; that is to say, there is a distinct hint of buff in the coloration. Other fine yellows of paler tint but clearer colouring are Gold and Butter Boy, the latter easily identified by three brown streaks on the lip. Nydia, with its "darynaid" colouring of pink and white; Woodcote, nearly scarlet; Insurpassable, unhappily named, but a glorious orange buff; Enon, of orange apricot hue; Eurydice, an excellent pink; and White Buttercup, are all excellent. Some of the 1922 novelties are indescribably lovely



THE GRACEFUL GLADIOLUS PRIMULINUS NYDIA.
A beautiful variety of pink and white colouring.



DAHLIA 'FIELD STAR' AT MUNSTEAD WOOD.



CHRYSANTHEMUMS IN THE EARLY AUTUMN BORDER.

but will, for a while, be too scarce and dear for extensive planting.

Of the large-flowered type the number of varieties is quite bewildering, but for border decoration such cheap but effective kinds as Halley, Baron J. Hulot, America, Faust, Golden West, Empress of India, Lily Lehmann, Panama, Peace, Princes, Swahn, Yellow Hammer, Maréchal Foch, will amply suffice. They will be found with colour descriptions in any decent bulb list.

The ruffled varieties emanating from that eminent American raiser Kunderd are remarkable for the vigour of the plant and the beauty of the "grass," as well as for the characteristic ruffling or crinkling of the petal edges. Those anxious to try this new and very beautiful class should procure a couple or two of Alton, which in addition to beauty of form, has extraordinary beauty of colouring. The exact shade is hard to describe, but may best be described as a blend of clear but rather pale salmon and cerise.

With Early-flowering Chrysanthemums it is necessary to select varieties sufficiently early for the special purpose.

There is a great preponderance of yellow shades among the really early-flowering sorts. Of clear yellows the following are all recommendable. Mrs. A. Thomson, richest golden yellow, very free and bushy, 2ft.; Carrie, perhaps the best early yellow, but not so bushy as Thomson, 2ft.; Flora, an admirable pompon variety, also bushy, 2ft.; Champ d'Or, deep canary, spreading habit, 1½ft.; Clara, 2ft.; Ethel, a primrose coloured sport from Robbie Burns, 3ft. or more; and Horace Martin, the buttercup-yellow Masse, 3ft.

In bronzy shades there is a fairly wide selection as the following list shews:—Orange Pet, a large-flowered Pompon of graceful habit, with bronzy-orange flowers, 2½ft.; Bronze Pet, cactus petalled, bright bronze, 1½ft.; Harrie, orange bronze, rather large flower, 2ft.; J. Bannister, reddish copper on lemon yellow ground, rather thin and slender in habit, a sport from Perle Chatillonnaise, 3ft.; Mrs. E. Stacey, a pretty and compact growing bronze Pompon, 1½ft.; and Nina Blick, large and shapely rich bronze flowers, one of the most handsome, but not so early to flower as most of those mentioned, 2½ft.

Of pinkish sorts, the following are the most useful:—Gustav Grunerwald, early and dwarf, 1½ft.; Mr. Selby, a very neat and dainty soft pink Pompon, 1½ft.; Normandie, pale blush pink, 2½ft.; Perle Chatillonnaise, peach pink and cream, a fine flower, but rather sparse in habit, 3ft.; Provence, rosy pink petals, tipped gold, 2ft.; Perle Rose, deep rose with of course the hint of blue always present in pink Chrysanthemums, a beautiful variety, but not out until mid-September, 2ft.; and Mme. Marie Masse, rosy mauve, prolific and useful; this and its sports, several of which are mentioned, are quite the hardiest border varieties in existence: should be left outdoors in winter and flower better the second season than the first; 3ft.

Of reddish shades there are Goacher's Crimson, rich velvety crimson with gold reverse, 2ft.; Fleuve Rouge, orange salmon, unique and telling colour and a good flower, September, 2ft.; Little Bob, small bright crimson Pompon, neat compact flower, September, 1ft.; Minnie Carpenter, terracotta colour, habit somewhat in the way of Mme. Marie Masse, 3ft.; and L'Argentillais, bright scarlet crimson and gold.

Good white varieties are not numerous, but these include Market White, an excellent sort, 2ft.; Holmes' White, not quite so pure a white, but valuable as a dwarf variety, 1½ft.; and Roi des Blancs, with admirable flowers, but sparse of habit so should be planted rather thickly, 2½ft.

BULB ORDERS.—I

The Value of "Tips"—Crocus species, Hyacinths, Freesias, Lachenalias, Daffodils.

THE Horticultural Club has never been the same to me since it left the small, rather dingy room at the end of the long ground-floor passage at the Hotel Windsor. Its size and homeliness encouraged confidences. Within its walls cats not only looked at kings, they spoke to them and with them. It was here that Mr. William Marshall, who was for many years the chairman of the Floral Committee of the Royal Horticultural Society, once confessed to me that he did not know the early Tulip, Prince of Austria. If it had been some out-of-the-way variety like Karel de Moor I would not have been surprised; but, Prince of Austria!

In a similar way, one of the best and most knowledgeable gardeners in old Ireland confessed in a letter only a very short time since that

the bud stage), and Tommasinianus (with delicate looking flowers usually of a pale lavender colour and with the tube long and slender). As this last named species seeds freely and is very unstable in its colouring, a good deal of quiet and interesting amusement can be got out of raising seedlings, possibly, too, a little profit if anything of exceptional merit should turn up. I have, for example, a very lovely dark purple form which I raised from my own seed and which I am trying to grow into a stock in the hope that some day it may find itself "on the market."

I have an idea that one cause of the mild Hyacinth mania in Holland in the thirties of the eighteenth century was the development of the double flower. It seems to have gone on increasing in favour until somewhere about the middle of

apricot colour, but also because it featured the graceful Roman Hyacinth in its slender spike and in the loose arrangement of its small bells. Most of our leading bulb merchants now give it a place in their lists. It is not, however, a very sociable plant as far as its own family is concerned. One must see it alone to see it at its best. One then realises why it is yearly increasing in favour. It should never be planted singly, but three bulbs should be put in a 6in. pot and so on in proportion.

I wonder if anyone is thinking of taking the advice I gave not long since when writing about Freesias and is going in for seedling raising. The seed should now be sown. It is not too late to purchase bulbs (strictly one should write corns), but no time must be lost. Following my usual custom I am growing a collection of yellows. I have got some from Mr. van Tubergen of Haarlem and some from Mr. G. H. Dalrymple of Bartley. These will be grown alongside my own seedlings and the whole will provide interest and excitement when their flowering time comes round. Dainty, Merry Widow, Conquest, Buttercup, Rosebud and Canary are all good varieties with which anyone going in for coloured forms may make a start. Early to bed is the Freesia slogau, so buy and pot betimes. The sooner the better. My Lachenalias have taken a leaf out of Dizzy's book and after giving a really top-hole show, said before they went into their summer torpor, "The time will come when everyone will grow us." In early July I sent three little parcels to Australia and New Zealand, and since then I have sent some to Guernsey and the South of England. Perhaps the tide has turned. Considering the ease with which Lachenalias may be grown and their time of flowering, added to their wonderful lasting power, it is surprising they are not more often seen. A dozen Lachenalia Nelsoni, enough to make a couple of 5in. pots, would be sufficient for a trial test. Fashion is a fickle jade. You never know. It may be with Lachenalias as it has been with the Daffodil Cervantes. In the returns made by the Narcissus Committee in 1913, only a single member returned this variety as suitable for growing in pots. Now it has suddenly sprung into fame and bids fair to be a serious rival to all the yellow trumpets. It is so wonderfully free flowering. Messrs. J. R. Pearson and Sons in their 1922 list quote two instances of this from bulbs supplied to customers: in one case twelve bulbs of Cervantes produced forty-nine blooms, and in the other one bulb produced six. I have Mr. "Daffodil" Pearson's return of 1913 before me as I write; I fancy were he to fill the same form up in 1922 Cervantes would not be left out. No Daffodil can beat Henry Irving for early work in pots, especially if the bulbs have been grown in the region round about Penzance, or in Scilly, or in the Channel Islands. In the return above mentioned it came second to Golden Spur in the yellow trumpet section. Any Daffodil or Polyanthus Narcissus which is intended for early work cannot be potted too soon. Cervantes reminds me of old Hartland of Cork, because I believe that he introduced it into commerce. I think he told me it was the Italian form of Princess. The name of Hartland I always associate with the delightful Leedsu Countess of Southesk. No Daffodil has a higher decorative value as a cut flower. I am delighted to see it included in Pearson's list. I will conclude these notes with their description—"Countess of Southesk (Hartland). A very pretty bulb, especially valuable for cutting. A large starry flower, very much in the style of Frank Miles. Segments white, cup pale lemon yellow turning white with age. A very strong plant, flower stalks 18 to 20 inches long." Now comes the nasty part; price, half a guinea a dozen, Why not buy a few and grow your own stock?

JOSEPH JACOB.



A BEAUTIFUL CROCUS SPECIES, C. SIEBERI.

until this summer he had not known that exquisite, if somewhat fickle, annual *Phacelia campanulata*!

The moral is two fold. It proclaims the necessity for tips at bulb-catalogue time and, further, it tells us that the knowledge of the best ordinary varieties is not as universal as, in all probability, we imagined.

Thus, to take the Crocus family, we find some of the Dutch varieties in almost every catalogue and in every garden, but we comparatively seldom come across any Crocus species in the beds and borders of our friends. The time for planting the autumn-flowering ones is over, so I omit them, and only mention four of those which are to be found under the head of winter or spring flowering varieties. Every one ought to have a few of each, for they are quite hardy and they are among the first flowers of the new year to come into bloom. The quartet is composed of Imperati (when fully open a beautiful blend of some shade of purple and buff), Sieberi (a rather dwarf grower, with comparatively small flowers of a rosy lavender shade), Susianus or Cloth of Gold (another dwarf growing, small flowered species with pretty pointed blooms marked externally with rich brown stripes, which are most conspicuous when the flower is in

last century, when the tide turned and the single flower began to come more and more to the front. At the present time some of our leading firms do not catalogue a single double variety. All the same, anyone who can get hold of a few bulbs of the double pale rose Kastanbloom (Chestnut-flower) will find he has a very beautiful flower and like myself, will wish to grow it a second time. While on the subject of Hyacinths I can well remember the time when the graceful, small flowered Orange Boxen was cold-shouldered by the growers of Haarlem, and how at the dinner of the Horticultural Club after the first forced bulb show at Vincent Square, dear ancient (he was more than old) Mr. G. H. van Waveren took a spike, which I suddenly produced in the course of my lecture, out of my hand and dashed it down on the table, accompanying his action with such scornful vituperations in his own language that I never ventured to ask for a translation. You know the old saying about the blood of martyrs being the seed of the church. The death of my poor little spike seems to have given renewed life to the outcast. Hard headed and gallant hearted Mr. William Cuthbertson spoke up for it, and said he was sure the ladies would like it, not only because of its pretty and

SOME BETTER SWEET PEAS

All Sweet Peas are good. There are, however, some better than others and it is of these that mention is made here. Which are the "best," no one man can say for all; the popular heading the "Best Sweet Peas" is therefore shirked.

MY earliest recollections of Sweet Peas carry me back well over forty years, and the rows, some long, some short, in cottage gardens are still clearly imprinted in my memory. The plants are grown closely together, they are usually about 4½ ft. in height and they are always loaded with many coloured flowers whence comes a perfume unsurpassed by that of any other plant grown. Big posies are taken into the room and one inhales, eye tastes, the exquisite fragrance. One cannot do that with the sorts we grow to-day. That is one of the things for which evolution must answer.

Later they still come sharply to my mind in widely different circumstances and conditions. Now there are no rows of mixed colours, but instead long rows of plants more than 1 ft. taller, divided into sections of separate varieties, as profuse in their flowering and as delicious in their characteristic scent. The individual blossoms are larger, they are possessed of greater substance and if there be loss of scent, it is imperceptible. No one can take exception to what the process of evolution has done up to this point.

The third era in my little history may be said to have commenced with the celebration of the bicentenary of the introduction of the plant into this country. Paxton's monumental glass house, the Crystal Palace, was the venue of the most important shows in those days and therein the Sweet Peas were displayed. Scores of bunches, hundreds of bunches, thousands of bunches, more or less artistically arranged, and their perfume converted the normal atmosphere of the huge building, which was on the somewhat unpleasant side, to something indescribably clean and countrified and sweet—Rimmel's shop, if you will, but infinitely more delicious. Still the advance of evolution was in a direction at which none could call.

Next came the formation of the National Sweet Pea Society, which maintained its initial success by leaping forward in giant strides to the position next to that of our national flower, the Rose. Interest in the simple annual assumed a different aspect. From being an indispensable plant for the garden of the cottage, the villa and the hall, it became an exhibition plant and special shows in its honour were held all over the country as well as in our Colonies, while the village flower show without classes for Sweet Peas was regarded as generations behind the times. Enthusiasts, some with knowledge and many without, commenced selecting and cross-fertilising and novelties were pressed forward from all directions until the chaos of the varieties was exceeded only by the chaos of multiplied names. The result was, perhaps, inevitable, but it was to be deplored by those who were unwaveringly loyal to Sweet Peas which had a reliable character.

Concurrently ran the introduction of the waved flower, of which Countess Spencer must be recognised as the type. It was just about as splendid a beauty as it was a worry, for the simple reason that when seeds of Countess Spencer were sown no one knew what the harvest of flowers would bring forth. Actually it gave us many grand Sweet Peas, vigorous of constitution, profuse of flowering, but markedly deficient of characteristic fragrance.



WELL FURNISHED CLUMPS OF SWEET PEAS, 11 FT. HIGH.

Since then, although some varieties are more highly and pleasingly perfumed than are others, we have been constantly descending in what ought to be accepted as an essential attribute. The superb exhibitions of the National Society at the Royal Horticultural Hall failed to pervade the atmosphere with the same delicious scent that the flowers at the bicentenary celebration had done the atmosphere of the Crystal Palace.

And all the time the craze, for size was developing. Stems had to be 2 ft. long, individual flowers had to be a quarter of that length (more or less) across and if they were set oins, asunder on the stalks so much the better considered the exhibitors, and presumably the judges too, since it was the monsters alone which were accorded the places of honour. The National Society fought the tendency vigorously and received

unstinted support from those growers who were firm in their opinion that refinement should come first. The Society's judges upheld the perfect stem with its perfectly arranged blossoms and condemned by default the travesties of what a Sweet Pea should be. In the end the London exhibitions became collections of superb Sweet Peas, but the faults continued to prevail in many directions in the provinces. Now there are not lacking indications that size, with ungainliness, is again coming into the ascendant and it is a fact that all true lovers will not only deprecate most strongly, but will also fight against when they are called upon to act the part of adjudicators. Judges should never overlook the fact that they are teachers of what is best and exercise the utmost care that their judgments are educating the learners on the correct lines. But let me see to my varieties before the patience of reader and editor alike has gone.

It is not my intention to pass under criticism all the novelties of very recent years, because I have not had them in my garden and am not therefore qualified to express an opinion of value. It is true that several have been given a place once and either because of their similarity or inferiority to older sorts they have not appeared again. Some have come to stay, while others will have to wait at least another season, and possibly two, before final judgment is reached. It must be understood clearly, too, that the names do not constitute a special selection, but are simply of varieties of substantial excellence which may be relied upon to give satisfaction provided that their colours meet the tastes of other amateur growers.

As a pink there is none that appeals to me so strongly as Hawmark Pink, because it is charming from the moment of expansion to collapse; it ranks among the finest of all Sweet Peas in my estimation. As a white, Edna May Improved is a chaste beauty, but Constance Hinton is no whit inferior for those who do not object to the slight tint. Picture, among the cream pinks of deep shade, stands nearly alone, as does Mrs. Arnold Hitchcock among those of paler hue. Felton's Cream and Dobbie's Cream force me to act the pendulum in swinging from side to side, trying to decide which I prefer. Charity, as a crimson, seems to me to be unrivalled, in fact it undoubtedly is so compared with several others which have had their trials from time to time.

John Ingman and Mrs. Hardcastle Sykes are veterans among Sweet Peas, but neither has a rival in its own shade of colour. As dark and light blues respectively, Commander Godsall and Mrs. Tom Jones are well able to hold their own up to now in my esteem. No collection must be completed without a lavender and as a pure shade it will not be easy to find a superior to R. F. Felton. Maroon, either reddish or chocolate, does not make strong appeal to me, but I am willing to pay tribute to the merits of Splendour and Warrior. Royal Purple stands alone, so no more need be said of it. In picotee edged my favourites are Annie Ireland in the white ground set and Jean Ireland in the cream ground group. As a scarlet I incline to the view that Hawmark Scarlet is the best that has had a place in my garden, but must confess to some doubts on the point when I remember the glorious clumps of Dobbie's Scarlet which have been grown. Mascott's Helio in its peculiar shade of lilac, Mrs. J. T. Wakefield, flushed, and Magic, as a tawny, have always pleased me by their excellent qualities, though I am not always satisfied that their colours make strong appeal.

Tangerine, richest of orange; The President, glowing orange scarlet; Royal Salute, and Royal Scot, deep and scarlet cerise respectively; must have their places in exhibition collections as they are all of very conspicuous merit, but as I do not

exhibit and have a rooted objection to turning my garden into an apology for a drying ground I do not grow them because they burn and that

badly; however, each to his or her own taste as well in colours, and in sizes, shapes and "drying grounds." H. L.

WATER LILIES

ONE of the most fascinating and interesting phases of gardening, where there is a large enough expanse of water, whether pond, lake or rivulet, and pleasant surroundings, is the cultivation of aquatic plants in general and the hybrid Water Lilies (*Nymphæas*) in particular. It is remarkable with what rapidity these beautiful and interesting plants have of late years come to the front, so that there are few gardens of any note without their Water Lily tank or artificial pond.

Natural or artificial sheets of water dotted with these fragrant flowers and the accompanying fresh green or mottled leaves, are sights not readily to be forgotten. All are quite hardy. They range in colour from snow white to cream, from soft pink to dark crimson, and pale sulphur to full yellow, and their foliage seems specially designed to lend added beauty to each particular type and hue of flower. It is very desirable that *Nymphæas* should be planted in full sun, and in still water, though the stronger growing kinds, such as the *Marliacea* group, will thrive in slightly running water if planted in nooks or bays away from the full force of the current.

Whether planted in tubs, tanks or small ponds, evaporation takes place, but water for replenishment should never be allowed to enter with great force, or a large quantity at one time, as the sudden chill is harmful and especially detrimental to their flowering. Water Lilies are not at all capricious as to soil, but it should be rather on the stiff side. Stiffish loam mixed with a little well decayed cow manure is excellent

Planting may be proceeded with during May and June, but they may be safely transplanted as long as the water remains warm. When intended for large ponds it is better to plant first in baskets and sink in the required positions for flowering. When planting in tubs, these should be pitched inside and out and then sunk in the ground until the edge is but a little above the ground level. There should be 6ins. to 9ins. of prepared soil placed in the bottom and the roots should be firmly planted, leaving 9ins. to 12ins. of water all over.

It is always well to introduce gold fish into tubs and small artificial ponds, as they destroy the mosquito larvæ and other injurious water insects. If fed from one corner the fish become quite tame and are much in evidence towards feeding time.

The list of *Nymphæas* is a long one, so I will confine myself to a few of the better and more prolific sorts.

VARIETIES FOR 1FT. TO 2FT. OF WATER.—*Marliacea albida*, large flowers, white; *M. carnea*, bluish pink; *M. rosea*, rich rose; *M. rubra punctata*, rich purplish red, spotted carmine, has conspicuous orange scarlet stamens; *M. chromatella*, a real gem, having large sweetly scented chrome yellow flowers, should be in all collections; *Colascea*, rich rose, very free and vigorous; *Escarboucle*, a most beautiful vermilion flower; *Robinsoni*, medium sized flowers, a pretty crimson vermilion, shaded towards centre with rich ochre foliage, spotted chestnut brown; *Moorei*, this is undoubtedly one of the finest introductions, large globular shaped flowers of a beautiful soft yellow, with dark olive green foliage, marbled chocolate; *Mrs. Richmond*,

another exceedingly handsome variety with clear soft pink flowers, very vigorous; *Gladstoniana*, one of the best for large ponds, having large ornamental leaves and gigantic snow white flowers.

FOR TUBS OR TANKS FOR 6INS. TO 9INS. OF WATER.—*Laydekeri fulgens*, rich amaranth; *L. purpurata*, rose, shaded lilac; *odorata minor*, small pure white flowers, very suitable for aquaria; *o. Exquisite*, clear pink; *o. sulphurea*, large flowers of clear sulphur shade.

Other attractions to the water garden are the many varieties of bog and water plants for planting near the edge of the water, or forming small islands; these, however, are best planted earlier in the year.

W. LOGAN.

BULBS FOR THE ROCK GARDEN

THERE lives a man who, not so very long ago, said that he would have no bulbs in his rock garden. The flowers were all very well, many of them quite good in fact, but there was the "afterwards" to be faced and he drew an awful picture of fading stems and dying leaves just when everything else was at its best. Of course, his rock garden—to use his own phrase—was "quite good"; there is such an abundant mass of non-bulbous material that it could hardly be otherwise, so that he cherished his delusion until one day, early in April, he visited my garden, when a sudden and very violent conversion took place. If this was what bulbs did for the alpine garden—well! I could not refrain from reminding him of the gigantic masses of decaying leaves that must, so he had suggested, mar the scene in May and June, but I invited him to come again and advised him to visit Kew and see the bulbs there. He almost fell down and worshipped before a little clump of *Narcissus triandrus* (Angels' Tears), and left, a badly shaken man. Later I heard that he had been to Kew and that this had completed the cure. His own bulbless garden became unsatisfactory in his eyes and he impatiently awaited planting time so that he could rectify the omission. When he came again I took him to the rock garden to prove that the barren masses of decaying leaves were not there.

No doubt there are others, like my friend, whose gardens are lacking just what his lacked. They thus miss some of the real charm of new-born spring. For the amount of fading foliage that obtrudes itself depends upon the planter and the means that are taken to associate the bulbs with other plants and thus screen them when the inevitable dying back does take place, while the pictures which a free use of dwarf bulbs enables us to create are abundant repayment for the thought and time involved. Consideration must be given to date of flowering, height, colour and suitability in connexion with the plants immediately surrounding them, and, finally, aspect, from the point of view of the plants themselves.

All dwarf and early-flowering bulbs, such as the tiny *Daffodils*, should have an "open" carpeting plant through which they can easily make their way. Many *Dianthus*es are excellent for this, as the growths permit the tiny bulbs to spear their way through and yet keep the flowers from becoming mud-splashed in showery weather. Mossy *Saxifrage*s are often recommended for this purpose and very good they are too, but I prefer something that enables the growth to make its way through more readily. Where used thus, choose one of the green-foliaged *Dianthus*es rather than a glaucous-leaved kind; the latter does not give sufficient contrast and detracts from the faintness of the flowers.



WATER LILIES AT GRAVETYE MANOR.

One could scarcely have too many of these miniature Narcissi—*cyclamineus*, *juncifolius*, *trifidus*, *Bulbocodium*, etc., for, wherever they peep out, they are indescribably attractive and, once established, do better and better with each year that passes. Many people are disappointed with these the first year after planting, because flowering is sparse and the majority of the bulbs only produce leaves, but time alone will correct this. Give them a position where they will be partially shaded during the hottest part of the day; plant about 1½ ins. to 2 ins. deep in a rich loam and time will do the rest.

An especially attractive plant is *Romulea Bulbocodium*, that resembles but is harder than *R. Celsii*. A great sun lover, it requires a light sandy soil, nestling against the foot of a large boulder that first absorbs and then gives out the heat of the sun. *Scillas* are very "alpine" and both early and late, give a splendid selection of dainty little flowers, rich in real gorgeous blue, a colour that illuminates and penetrates in its vivid intensity. *S.S. bifolia*, *italica*, *unifolia*, *verna* and *sibirica*, all are grand species for the rock garden and, if an especially "cunning" little effect is wanted, try planting these close to a group of *Saxifraga cordifolia* (*Megasea*), so that the lovely little flowers are seen against the large glossy, rather coppery leaves of the *Saxifrage*.

After mid-April we can enjoy a continuous procession of Tulips, in every gorgeous hue that this wonderful genus contains. Not the common border or bedding Tulips, of course—these would be out of place—but the wildling un-improved children of Nature, little gems only a few inches high but glowing with a fire and brilliance that compete on equal terms with the finest of the florists' varieties. A rock garden rich in these is an enviable place indeed during the best of the spring days, for there you will have Tulips that flame in gold and crimson, blush in softest pink or cream or white, endeavour to prove that they are wee Water Lilies, or cajole us into the belief that they are star dust dropped from last night's sky. Tulips, in short, in such a diversity of form and colour that those who are only familiar with the garden forms would rub their eyes and stare in amazement.

Among the choicest little plants of all for shaded nooks, where the ground is cool, moist and rich in leaf mould, are the hardy *Cyclamens ibericum* and *repandum*. These look best in little colonies, with here and there an isolated plant breaking away from the main mass. *C. ibericum* is sometimes listed as *vernum* and is doubly beautiful, in that the leaves are nearly as attractive as the lovely little crimson flowers on thin stems which never exceed 3 ins. in height. There is an equally charming white variety of this with a crimson blotch at the base. The *repandum* varieties are slightly taller than *ibericum*, with ivy-like leaves, barred with a silver zone. These are later in flowering too, being at their best in April and May. By including a group of each species therefore, one has a continuous succession of wee flowers from early February to mid-May. When these plants strike a home that is to their liking, they lose no time in taking possession of it by sowing their seeds all round the original colony so that as the years pass they peep out far and wide, and are usually especially happy in their "choice" of positions. In company with these should be the *Hyssopus* (*Dog's Foot Violets*), ideal frail-looking, shade-loving plants that are, however, absolutely hardy. These plants are much more individualists than the *Cyclamen* and a single plant or quite small colony in just the right setting is one of the most beautiful sights that the rock garden can show. Do not omit an annual dressing of old manure and peat in equal mixture over the spot where they are growing. With this attention

they are long lived and flower splendidly every year. It is, perhaps, curious that, although they love damp, they detest wet and never do better than where growing in a rather loose soil, below which there is ample drainage.

The charms of the dainty little bulbous *Iris* must not be overlooked. These are gems indeed and fill many a little sunny nook as no other flower could do. There are *I.I. bucharica*, *caucasica*, *cristata* and *orchioides*, for instance, lost in the space of a mixed border, but plants of glorious charm amid rocks. *Iris orchioides* is one of my own particular favourites, with its self-coloured yellow flowers on foot tall stems. It is a delightful little plant, well worth the trouble of making happy, which is easily done if a sunny spot is found. The soil should be very light and sandy, but well enriched with rotten leaves and old manure. It should be disturbed as little as possible, for it has thick fleshy roots that remain attached to the bulbs during the resting season; time, therefore, is required to establish them. Of course *I. reticulata* must be planted, and planted freely too; there is nothing to excel this for early flowering. If the season is at all forward, mid-February will see the first of the lovely deep blue flowers, with a brilliant touch of deep orange on each fall, expand; these continue to open in succession for several weeks. The bulbs are covered with an outer coating of netted fibre and should not be planted too deeply. Another point that should not be overlooked in connexion with this is to plant in rather poor and stony soil. I speak feelingly, remembering one of my own mistakes. The bulbs came to me from a friend and I put them in a deep pocket, filled with a rich fibrous loam. The first year two flowers! "Oh," said I, "freshly planted of course—next year." And I watched the long strong leatage with a cheerful heart. But that is just where I made my mistake, strong leatage is not a sign of health and the following year I got no flowers. Then I did what I ought to have done earlier, consulted the donor of the bulbs. His plants, I found, did not make long leaves; on the contrary, they were quite

dwarf even in early July and the bulbs that flowered most profusely of all were those that had, in course of time, worked their way out into a gravel path. I took the hint, went home and changed the position of those bulbs at the earliest opportunity. Now they grow, but not over luxuriantly, and I have never since had a



A LITTLE COLONY OF NARCISSUS CYCLAMINEUS.



CROCUS SIEBERI, VAR. ATTICUS, IN THE ROCK GARDEN.

season pass without flowers. To me too, the Spring Star Flower, *Milla uniflora*, always has a special charm, while it is one of the most permanent of all bulbs. Once planted, it seems to go on for ever and there should be an increasing mass each spring of the lovely pure white starry flowers that last so long in perfection.

Fritillarias, Muscaris, Crocus species and others of that ilk should be used lavishly, but more in the approach to than in the actual rock garden itself, for they do so well among Ferns, shrubs or short grass, that they are more useful there than in the pockets among the choicer plants.

The above remark applies, of course, to the bulk of varieties among the genera named, but, and especially in the case of the Fritillarias, there are

a few varieties so good that nothing less than a dwelling of their own meets the case. There is, for example, *F. pudica*, an entirely distinct form with small drooping bell-shaped flowers, first green and later becoming golden yellow. One of the most magnificent of all is *F. recurva*, a splendid Californian species that must have a protected spot and a rich cool soil where it can produce its tall stems, carrying the chequered scarlet and yellow flowers.

To revert for a moment to the Muscari. Those fond of the quaintly beautiful should procure a dozen bulbs of *M. plumosum*, the Feather Hyacinth, the flowers of which have become little more than long twisted mauve threads, the whole forming a feather-like flower of striking appearance.

H. W. CANNING-WRIGHT.

THE HERBACEOUS PHLOXES

As the planting season is gradually drawing near, perhaps a few remarks on these beautiful summer and autumn flowering plants will not be inopportune.

ALTHOUGH herbaceous Phloxes will thrive, more or less, in the majority of soils, those who wish to excel with them should bear the following points in mind.

These Phloxes are gross feeders, so a well enriched soil that has been deeply cultivated should be chosen. During the period of growth copious supplies of liquid manure or other such stimulant should be given. In the event of a drought a good mulch of well decayed dung will materially assist in retaining moisture and supplying nourishment to the roots. The value of mulching under such circumstances was brought home to us last year at Mr. Jones' nursery. These mulchings enabled Mr. Jones to bring to the R.H.S. meetings at Westminster, despite the unfavourable season, many fine groups of Phloxes. Phloxes certainly show to greatest advantage planted in masses, preferably of one colour. If planted in beds it is advisable to have depressed surfaces so that rain will not run off. Phloxes are surface rooting plants so these depressed surfaces will also allow for a rich mulch. When planting the heights that various varieties attain should be taken into account.

The actual planting is best carried out in early autumn and this is practically essential on light soils. At this season the soil will be moist and warm, which will enable the plants to get a firm grip of the soil before winter sets in. The earlier the planting the finer is likely to be the display of bloom the following summer.

Plants from the open ground are undoubtedly best and yearlings raised from cuttings better, generally speaking, than divided stuff. There are many gardeners none the less who never propagate Phloxes from cuttings. They divide up large clumps during the autumn. This division often meets with a certain amount of success. However, rooted cuttings are far superior, as they have the merit of possessing a new lease of life, whereas the divided portion is more or less exhausted. Division, too, often produces poor, straggly plants and inferior blooms.

If one must rely upon the divided clump as a means of "propagation," only the outer portions should be planted and the centre be consigned to the rubbish heap. Now as regards stakes, it is advisable to put these in place as early as possible so that damage to the spreading roots may be minimised. The flower stems should not all be tied to one stake, otherwise the plant is but too likely to take on a besom-like appearance. Nor

is it advisable to use over long stakes for the purpose since this will sadly mar the picture when the plants come into flower.



A BORDER OF PHLOXES.

Each shoot should be spread out and attached to a stake. Where the shoots are numerous the weakest ones should be removed. The sooner this very necessary thinning can be done the greater will be the amount of vigour available for those selected to produce perfect blooms.

As cut flowers many varieties of Phlox look admirable. The spikes should be cut before the

flowers fully expand. Some varieties are especially charming under artificial light. They are, however, unsuited for table decorations because of the possibility of the pips shedding.

The list of varieties is now exceedingly long. The following list, while not in any way exhaustive, contains some of the best and most distinctive. Dr. Charcot, bluish mauve, has large flowers in good trusses; Elizabeth Campbell, light salmon, very large truss, is an old favourite; Frau A. Buchner is perhaps the best pure white; Embrazement is a fine salmon with darker eye; Dr. Königshofer is one of the best of the orange scarlets; Freifraulein von Lassberg, another good snow white sort; G. A. Strohlein is almost vermilion in colour with a carmine eye; H. J. Jones is quite the best of the rosy scarlets; Le Mahdi is probably the best violet blue, not an attractive colour to many people, nor are the pips a very wonderful size; Gen. van Heutsz is a salmon red, white centred, all sorts approaching this colour burn in strong sunshine. Gruppenkonigin, flesh colour, carmine eye; Mrs. H. Jenkins, white; William Watson, soft pink, mauve eye; Tapis Blanc and suffruticosus Snowdon, both good dwarf whites, are all excellent.

Besides these we have Mrs. J. H. Jones, mauve, shaded pink, carmine eye; Mrs. A. W. Alder, shell pink; Muriel Alder, salmon red, dark eye; the Rev. Gilbert Raynor, a fine intense salmon;

Rijnstroom, rose pink; Rosenberg, carmine violet, blood red eye; Mrs. Louie Williams, deep salmon; C. Edwards, clear salmon, bids fair to come to the front; La Neige, white, fine truss; Imperator, rich crimson; Jesse Waters, salmon orange, carmine eye; Florrie Freeman, carmine cerise, and Hanny Piledeker, ere my blush, carmine eye. G. H.

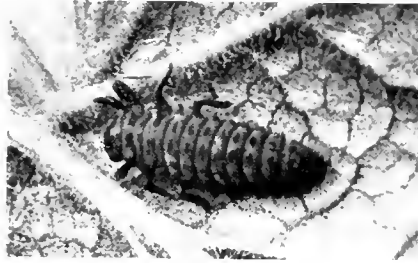
THE ENEMIES OF THE GREENFLY

THE greenfly has three inveterate enemies—the hover-fly, the lacewing-fly and the ladybird. With all of them, in their adult stage, we are familiar. The ladybird needs no introduction; the lacewing, with its large, delicate wings, its green body and its brilliant golden eyes, we have often seen resting on a wall or fence; and the black and yellow banded hoverflies are exceedingly common in every garden, especially towards the end of summer, poising over the flowers or darting to and fro like tiny hawks.

All three insects should be protected in every possible way, for their grubs all feed on aphides or greenfly; and they feed on them to such an enormous extent that they destroy far more than any remedy we can devise.

The eggs of both the lacewing and the ladybird are easily detected and, therefore, easily preserved from destruction; they are laid in groups, and the groups are sufficiently large readily to be seen. In the case of the hover-fly, however, it is different; one egg only is usually laid at a time and, of course it is so small as to be practically invisible. Three days after this minute, bolster-shaped egg is laid the grub hatches out; it is blind, light yellow in colour, less than one-sixteenth of an inch long, and ready from the moment of arrival to catch and eat greenfly. It does not actually eat them, by the way, it sucks them; but, so far as the gardener is concerned, the result is the same—the complete annihilation of the pest. The grub is provided with a curious three-spiked weapon

on its head, and with this it seizes and holds aloft its prey. When quite young it can manage only



THE LARVA OF THE LADYBIRD, POPULARLY CALLED "NIGGER."

two small greenflies per day, but before it reaches the pupation stage it devours one every minute! And this goes on all day, and probably most of the night. What insecticide can boast such a result? The colour of a full grown grub is a pale green, with a touch of reddish purple at the tail, and a whitish dorsal stripe. It is rather easy to overlook these greenish, slow-moving creatures and to brush them away with the greenfly.

Fortunately, one is not at all likely to overlook the black and red larva of the ladybird. The eggs are greenish in colour and are laid in little bundles; sometimes they are so yellow that it is possible to mistake them for the eggs of the Large White butterfly. As soon as they hatch out, however the larvæ are leaden grey, almost black, with patches of red; they are fairly active, hunting about on the leaves for their food and eating every greenfly they find. The chrysalis is a little dark, shapeless object that hangs, head downward, on the upper side of a leaf or on a twig. Both the insect and the larva have the power to exude a very disagreeable odour by means of a liquid that comes out of the joints of the legs; this odour is very perceptible if a number of the little beetles chance to hibernate during the winter in a living-room. But in spite of its disagreeableness, or perhaps because of it, this liquid is considered by some country-folk to be a good remedy for toothache.

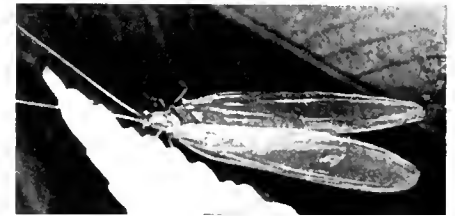
I do not think the hover-fly, as an adult insect, is ever carnivorous. There is a doubt about the lacewing in this respect, because it seems to have the power to inflict a slight bite on the skin. About the ladybird there is no doubt at all; it is certainly carnivorous and a very good hunter; I have seen it exhaust and kill a gnat in a very few seconds by sucking its juices. Therefore ladybirds are useful in the garden, both as larvæ and as beetles.

As larvæ, perhaps the lacewings are the most voracious of these three insects; they are also merciless cannibals should the supply of greenfly fail them. For this reason, it is a wise provision of Providence for their race that the eggs are laid apart and each on its own little foot-stalk. Sometimes it does happen that the eggs have been laid quickly and that the stalks have, in a way, run together, so that the eggs appear as a little bunch, and in such a case the first larva to escape from its shell will probably eat all the other eggs, or the larvæ as they appear. But usually the stalks are quite separate, and each little newly hatched grub has to climb down its own stalk and go in search of greenfly. The way these eggs are laid is very remarkable. The lacewing first places on the leaf a drop of sticky, transparent fluid; she keeps her ovipositor attached to this and draws it out and up into a thread that hardens very rapidly; on the top of it she places her egg, probably fastening it to the thread by another

drop of the liquid. The eggs have a papery, vegetable appearance, and this led casual observers some years ago to conclude that they were some sort of moss or fungus. It is possible that this liquid, which hardens round the eggs into a sort of parchment, is disagreeable to birds; otherwise one wonders why the birds do not snap them all up.

The pupæ of the lacewings are not often seen, because the larvæ, before pupation, wander away and hide themselves in chinks and crevices and withered leaves. The fly emerges during the day, as the warmth of the sun is necessary to develop the wings, but for the rest of its life it is inactive during the day and flies at dusk.

Besides its stalked eggs, there is another strange feature in the lacewing's career, and this is the fact that the pupa, before the emergence of the perfect insect, develops leg-muscles that are functional. As soon as the fly is ready to appear, the pupa cuts its way out of the pupa case with



THE LACEWING-FLY.



CURIOSLY STALKED EGGS OF THE LACEWING-FLY.

a pair of specially constructed jaws that are used on this occasion only, and then climbs out and seeks a rough projecting surface. When it has found a suitable spot, usually a tree-trunk, it remains quiet till the skin splits on its back, and the small, crumpled wings appear; the pupal skin is now finally discarded, and the fly hangs on to the trunk till its wings have grown and stiffened.

There is very little one can do to induce these immensely useful little foes of the greenfly to breed in our gardens. Only in the case of the hover-flies are we able to place any attraction in their way. Hover-flies are all very fond of certain flowers, among which are Michaelmas Daisies and Mint blossoms. It is certain that, after enjoying the sweets of these flowers, the flies would be more likely to lay their eggs among greenfly near at hand than wander off elsewhere; so it would be a wise thing to see that the garden contains a flourishing bed of Michaelmas Daisies or Mint or any other flowers over which these flies are observed to hover and dart.

M. H. CRAWFORD.



HOVER-FLY LAYING EGGS AMONG GREENFLY.



LARVA OF THE HOVER-FLY.



HOVER-FLY PUPA.

CORRESPONDENCE

CENTAUREA CANDIDISSIMA IN SEASIDE GARDENS.

WERE I to name one plant as quite indispensable to seaside gardens, I should certainly say *Centaurea candidissima*. Tender it may be in inland and sheltered gardens, but plant it in the most exposed, windy spot on the sea coast, where the wind dries up all stagnant moisture, it proves itself the hardiest of the hardy. Need I say how very ornamental it is when properly planted? The other day I came across a tangled mass of the lovely soft rose-pink form of *Convolvulus althaeoides* in full flower, this *Centaurea* towering above it with its bold silver leafage and handsome yellow heads of flower, contrasting with the purple of the wild Knapweed, while the whole hillside is overrun with *Muehlenbeckia complexa*, never so happy as by the seaside. No formal bedding could surpass the beauty of this semi-wild cliff side. The *Centaurea* grows into big rounded masses of foliage that neither wind nor rain nor cold seems to touch, taking care of itself in the most satisfactory manner. With a few *Fuchsia* bushes or the hardy *Olearia Haastii*, nothing more is wanted to enliven a cliff side garden where *Thrift* is already in evidence and with the pretty little white or pink *Convolvulus arvensis* of the cliffs. Even the penurious Folkestone gardeners might take a hint? Their cliffs *do* need beautifying.—E. H. W.

SEMPERVIVUMS ON NAKED ROCK.

I ENCLOSE a photograph, which may be of interest to your readers, of a rock planted with *Sempervivums*. These plants are usually rather uninteresting in a rock garden, but when planted on a rock give an added charm, especially with the numerous kinds that are now procurable and if, in selecting and planting, the colours are considered. The limestone rock was first planted



SEMPERVIVUMS FLOURISHING WITHOUT SOIL.

with *Sempervivum arachnoideum* about 1913 and larger varieties added later. The rough surface of rock was covered with powdered limestone and earth mixed so as to form a kind of mortar and *S. arachnoideum* gently pressed into it. This mortar dries quickly and does not crack. It holds the plant in place till it is rooted, by which time the weather has gradually removed the mortar. For the larger kinds a steel drill was used, and holes bored 2ins. or 3ins. deep and roots packed into these with earth and finished off with mortar. *Saxifraga Sir Francis Cade* can also be grown like this. Its rosettes may be seen towards the top left-hand side of the rock in the illustration. At the base can be seen the white flower of *Saxifraga lingulata lantoscana superba* and *S. Aizoon rosea* spikes about to flower, also rosettes of *S. Sir Francis Cade*. At the bottom left-hand corner can be seen *Wahlenbergia serphyllifolia major* about to burst into flower. There are eight varieties of *Sempervivums* now growing on this rock, and last year *Sempervivum arachnoideum* had eight or nine flowers.—H. P. LESCHALLAS.

YUCCA FILAMENTOSA?

I ENCLOSE a photograph of a *Yucca* which I believe to be *Y. filamentosa*. It forms at present a very attractive object in my little front garden. The plant flowered for the first time two summers ago and then broke up into about a dozen crowns, four of which have sent up flower spikes this season. Is it advisable to divide the plant which will probably be overcrowded with new shoots later on and what is the best time for this operation?—G. S., Loughton, Essex.

[Both those very similar *Yuccas*, *Y.Y. filamentosa* and *flaccida* and their almost innumerable hybrids, may be increased by division. These species produce rhizomatous underground stems which will make good plants when cut off and potted. Division is best carried out fairly soon after flowering. Unless, however, our correspondent's clump shows failing vigour in the height and size of the flower stems, we should be inclined to leave it undisturbed. From the photograph the plant probably is *Y. filamentosa*.—Ed.]

PRUNING CLEMATISES.

FROM correspondence which has appeared from time to time in the horticultural press, there undoubtedly appears to be some confusion as to the correct treatment in pruning the various types of Clematis. I had a practical demonstration of the fact when visiting a private garden towards the end of the autumn. The owner was conducting me round, discussing the merits of various plants, when we came to a strong, healthy Clematis

covering a considerable wall space. He asked, "Can you tell me why I never get any blooms on this plant; it has been well manured and cut hard back every year?" I saw at once from the foliage that it was a spring-flowering variety of



A GOOD PLANT OF YUCCA FILAMENTOSA (?).

the *Azure* or *Patens* type, which flower from the old wood, so was able to assure him that if he would instruct his gardener not to prune it back hard that winter he would have a wealth of blossom the following spring.

All Clematises need some pruning, and this should be done in February or early in March, after the severe frosts are over, and the buds commence to show signs of swelling.

It is impossible to mention particular varieties where they are so numerous, but speaking generally, all spring-flowering varieties of the *Azure*, *Florida*, *Anemoniflora* and *Calycina* types, which flower from the old ripened wood, only require to have the weak, straggling or overcrowded branches removed. In the case of the rampant growing varieties, such as *C. montana*, it is a good plan to cut back hard some of the branches each year to encourage new growth from the base, and so prevent the plants from getting out of control and becoming bare and unsightly.

The large summer-flowering varieties of the *Lanuginosa* type are not so rampant as the autumn bloomers, so it is often only necessary to prune back the weak or dead branches to strong breaking eyes, though where they do well they may be cut back to within two pairs of axillary buds.

The large autumn-flowering varieties of the *Jackmanii* and *Viticella* types, which flower in profusion from the young summer shoots, require to be pruned back hard to within two pairs of axillary buds, to encourage the development of vigorous young shoots, while the small flowering

varieties of the *Viornæ*, *Wokingensis*, *Aromaticæ* and *Erectæ* types require the shoots cut back as far as they annually die down.—A. G. JACKMAN.

A "PALM" IN FLOWER.

I HAVE been greatly interested in the photograph and description of the flowering of a *Cordyline australis* in Kent, given by Colonel A. C. Borton in your issue of THE GARDEN for August 12. We have had a somewhat similar experience further north and it may interest you to learn that at Castlehill, Ayrshire, N.B., a *Cordyline australis* bloomed most luxuriantly this summer and at the same time the Palm, *Chamærops Fortunei* flowered freely. They are both in open ground and no special care is needed in winter. The flower spike of the *Cordyline*, when cut off, measured

Surely she must have misunderstood the genial and learned Prof. Chodat in saying "Only six hours from here (Bourg St. Pierre) by the post cart" to the Hospice. It is only eight miles by the road, and of course less on foot by crossing the zigzags. The traveller must indeed be congratulated on spotting from a carriage the tiny *Saxifraga cæsia* "in abundance at the sides of the road." Whenever I walked along that truly dismal road above Bourg I failed to see it, though this rare *Saxifraga* is frequent between here and Val Ferret. Getting out of the carriage she found, "near the river, *Gentiana germanica* of an ugly red mauve." This could not be *germanica* at that height and season, and was possibly a colour-form of *G. campestris*. *G. germanica* is a plant of the plains, hills and sub-alps, and is at its best in September and October.

when Savoy was ceded to France (1859), and that a good stretch of Italian Piedmont intervenes between the St. Bernard Pass and Savoy on the West.

What is meant by the statement that the Linnæa garden "contains 25,000 different plants"? Ten years ago there were about three thousand kinds of plants in this beautiful and half natural garden. It would be interesting to know about how many more species are there now. Yes, it is a "wonderful drive" and a still more wonderful walk down from the Hospice to Martigny; but the drop is not quite "8,000ft. in two hours" (by motor-car), but 6,560ft.—H. STUART THOMPSON.

THE RETURN OF THE EARWIG.

BE the season what it may, on the approach of autumn the earwig gives evidence of its presence in the garden. If in the borders there are to be found Anemones, Chrysanthemums, Dahlias and Sunflowers, so surely will this pest be present. You may have admired one evening the chaste white blossoms of *Anemone japonica alba*, rising from out a perfect setting of their dark green leaves, only to find on visiting the garden next morning that both blossoms and foliage have been subject in the short interval to numerous perforations such as to render them useless for cutting. The depredation among Dahlias is equally bad, and the most promising crown buds on the choicest Chrysanthemums fall a prey to this enemy of the gardener. As yet there does not appear to be any reliable specific for the prevention of the inroads of earwigs amongst plants which are peculiarly liable to its onslaughts. *Dahlia* growers of a former generation trapped the pests in inverted flower pots containing wool or moss. The same "dodge" holds good to-day. There is no easy way to the extermination of earwigs. The grower for show of both Dahlias and Chrysanthemums takes little or no risk. As with his forefathers, so with him, the nightly visit with lantern in hand and a pair of sharp scissors, is the only specific he believes in. It involves trouble, but it saves the best blooms, probably, and this is what really counts.—L. W.

IS THE HOLLYHOCK DECLINING?

IS the fungoid growth to which Hollyhocks are susceptible, and which makes its presence felt more particularly on old plants, by an early rusting away of the leaves, the reason why they are seen less frequently in gardens than they were thirty and more years ago? Possibly this may have had a deal to do with the decline of this one time popular florist's flower. The mistake made by those who used to grow Hollyhocks, and who have since given them up because of failure through the prevalence of fungus, seems to me was of treating them as perennials and allowing all and sundry suckers to remain, the result being that the original plant developed into a colony of plants, filching from the soil most of its nutriment very quickly and rendering the plants an easy prey to the rust disease. Hollyhocks, when well grown, are such noble and attractive plants for the back of a border, or for grouping, that it seems a pity their popularity should be on the wane. I think if we treated them more as biennials and gave them fresh quarters, in medium soil, rendered rich with rotted manure and decayed vegetable matter, we should hear less of disease. I feel confident that the biennial treatment of the Hollyhock is the only sure and safe method to overcome the dreaded fungus. Hollyhocks are best planted at the back of herbaceous borders since they lose their bottom leaves when attacked by this disease, which gives the plants a very untidy appearance when planted alone in beds.—C. ARENOR.



CORDYLINE AUSTRALIS IN FLOWER ON THE RIGHT. ON THE LEFT CHAMÆROPS FORTUNEI, ALSO IN BLOSSOM.

7ft. in height and 8ft. in circumference, the tree itself being 16ft. in height. I enclose a photograph shewing both plants.—(Mrs.) HELEN J. WILSON.

THE GREAT ST. BERNARD PASS.

IN reading the interesting article signed "A. M. M." and entitled "Alpines at the Grand St. Bernard, Switzerland" (August 12 issue, page 403), one is reminded almost of the very early writers on Alpine matters who always exaggerated the awfulness and the difficulties of snow ascents, in keeping with the lingering belief that dragons frequented the Alps, and feared that to ascend above the snow-line they were in perpetual risk of avalanches and tempests.

None of us enjoy correcting errors or misleading statements, however unintentional, in the published writings of fellow scribblers in the press; but sometimes it may not be well to let such pass unnoticed. A well known scientist once said at a meeting of journalists that perhaps 80 per cent. of the so-called scientific and geographical statements published in the daily press would not bear investigation. "A. M. M." will therefore bear with me when I venture to draw attention to a few points; particularly as THE GARDEN is kept by many,

It is recorded from only about four places in the whole of the Valais, and never from the district in question, and it is, perhaps, more frequent on the English chalk than in Switzerland. Its four-cleft corolla is much larger than the finest *campestris*, though in the Alps the latter is often very beautiful and most varied.

"Soon we were beyond the snow line." But "no more trees, nothing but grim rocks and thistles" does not indicate the line of perpetual snow, which is what is always meant by the snow line! Patches of snow were probably implied. On that side of the pass the snow line is somewhat low, but even the Hospice (8,110ft.) with its severe cold, is just below the line of perpetual snow. That the climate "kills any man who stays at the Hospice more than ten years" is, fortunately, an exaggeration. After twelve or fifteen years the Canons (Austin Canons Regular) usually descend to the mother house at Martigny.

"There, . . . waving his arm across the guarded frontier towards Savoy, 'lies Paradiso, full-till of the most wonderful flowers and strictly preserved as a hunting domain.'" The fact that the King of Italy has most of these extensive hunting domains should have reminded the visitor that it is long since Magenta,

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Early Beetroots.—Do not allow these to remain too long in the ground or they will become very coarse and unshapely. Lift the roots carefully and remove to a cool store; failing such, the back of a north wall will do. A covering with leaves or bracken should be afforded when stored in this way.

Beans of the Runner and dwarf French type should be kept regularly picked whether immediately required for use or not. If left hanging on the plants they not only become tough and unusable, but they rob the plants of vitality, which greatly hinders the development of later Beans. After having been gathered Beans will keep in good condition for at least a week if placed on the ground in a cool cellar. It is an excellent practice to use surplus supplies as they become fit by storing in large earthenware pans to be drawn upon during winter.

Potatoes.—Lift all second earlies and mid-season varieties and remove to the store. Select a dry day for this work. Remove those required for seed to empty frames having a firm ash bottom thoroughly to ripen, and where, if necessary, they may be protected from rains until they are placed in storage quarters.

Cucumbers.—Give every encouragement to the young plants which are to supply fruits for the next few months. An abundance of water will be required during hot weather, and to keep the plants in good going order top-dress as soon as the roots make their way to the top. By careful ventilation the growths of the plants can be assisted to maintain their cleanliness and vigour, important points for winter fruiters.

The Flower Garden.

General Work.—The propagation of various plants must be pushed on to suit requirements, erring always by propagating too many than otherwise, for it is a simple matter to discard surplus plants when the results of the "strike" are assured. In addition to the propagation of the usual run of plants used for bedding purposes, the present time is suitable for inserting cuttings of a great many shrubs, using a sandy compost and a cold frame for the purpose. Beds and borders now need a great deal of attention to keep them constantly tidy and effective. Seed pods soon exhaust a great many of the plants so must not be allowed to form. Two plants in particular need watching for these if they are to be kept well up to the flowering standard—viz., Sweet Peas and Violas. These plants, in company with others, if showing any signs of exhaustion, should have a thin sprinkling of artificial manure lightly worked in around them and watered in, unless the weather renders the latter operation unnecessary. Keep Violet plants free from runners and if red spider is present give several good syringings with an insecticide, and use the hoe occasionally to keep weeds down.

The Hardy Fruit Garden.

Figs.—As the fruits approach the ripening stage care must be taken to see that they are secure from birds and insects. Select strong well placed growths for training in to provide next year's crop and at the same time cut out strong growing breast wood. The removal of this and the laying in of the former will allow plenty of light and air to penetrate, which is essential for the successful finish of the fruits.

Black Currants.—The crop having been cleared, the thinning of the bushes may be taken in hand if so desired. In dealing with this fruit the essential point is to induce and encourage good basal growths, and this should be borne in mind when planting, by getting them well down in the soil. Old trees in particular should have some of their branches which have carried fruit cut out entirely, thus concentrating the energies of the plants upon next year's fruiting wood. If some manure can be spared a good mulch applied now while roots are still active will do old or weakly trees a great deal of good.

Loganberries.—These require similar treatment to the Raspberries as soon as the fruiting season is over. Cut out all the old fruiting canes and lay in sufficient of the young ones as required for covering their allotted space. This is a most useful berry for immediate use or for preserving and those who wish to prolong its season and have not tried it on a north wall or against any support having similar aspect, would do well to try it. Should a few new roots be required they may be

secured by pegging down the ends of some of the shoots into the ground, or into pots if preferred. The young plants will be sufficiently rooted for autumn planting.

Fruits Under Glass.

Melons.—It is essential that the late plants be encouraged to make rapid headway, and to assist in doing this plenty of heat must be provided. Every bit of sun heat must be husbanded and the hot-water pipes kept sufficiently warm to prevent the temperature of the house falling below 70° to 75° at night. Having secured a couple of fruits to each plant suppress all unnecessary wood and bodd up the plants quickly to develop the fruits. Watch frame Melons carefully and see that the finishing fruits are clear of leaves. Where there is no pipe heat, cover the frames on cold nights with thick mats.

H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Spinach.—Thin earlier sown lots of winter Spinach to 4 ins. or 5 ins. between the plants and make further sowings of hardy sorts for picking during early spring.

Lettuce.—Prick out quantities of the more hardy sorts in sheltered quarters for cutting during October. Spare frames may also be utilised for this purpose. The advantage in employing frames is that they may be covered during wintry weather.

French Beans.—Where these are required during winter and the necessary facilities are available, a start should now be made by sowing in pots or in beds in heated pits. Osborn's Forcing and Sutton's Evergreen being commendable varieties for this purpose. Ventilation and watering will need careful attention so that no chill or excess of moisture may result. The ultimate success of this crop depending on the plants maintaining a sturdy growth.

Leeks.—Fill up any vacant ground available with Leeks, for although the season may be somewhat advanced, this desirable vegetable makes good headway during autumn and early spring, provided that the weather keeps open. Early lots now growing freely may be further assisted with regular waterings of liquid manure or soot water.

Fruit Under Glass.

Pot Fruit Trees that are required for forcing must be repotted now and every encouragement given them to mature their buds. Later pot fruits which have recently been cleared of their crop should be stood out of doors, as this will allow for proper ripening of the wood. Attention must still be given the trees as regards watering. Where it is intended to grow a few Peaches and Plums in pots for the first time, the following will prove suitable sorts for this mode of culture. Plums: Jefferson Gage, Denniston's Superb Gage, Kirke's Blue and the old Green Gage. Peaches: The Marchioness of Devonshire, Royal George and Dr. Hogg are good and reliable sorts. While Early Rivers, Pine Apple, Dryden and Humboldt may be chosen from among the Nectarines.

Late Vineries.—Keep a moderate amount of heat in the pipes at this period, more especially during sunless weather. Grapes now ripening should be given the necessary generous treatment so that they may develop berries of fine size and colour. Varieties such as Gros Colmar are at times rather difficult to get entirely black, but this may be caused by the lack of certain essentials in the soil. Where this is likely a note should be made so that the addition of certain chemicals, such as sulphate of iron, may be applied while the Vines are dormant. Over-cropping is often the primary cause of the fruits not colouring properly, while the exhausted condition of the border is also to blame at times.

The Flower Garden.

Polyanthuses.—Give the young seedlings every assistance to make strong, well developed plants before the bedding out period arrives, as these are among the most useful spring flowering plants we have. When preparing the beds give rotted dung so that healthy foliage and strong flower spikes may result.

Lilium candidum.—As bulbs of this charming old Lily come to hand, no time should be lost in having them planted out so that they may get well rooted before winter sets in. This Lilium seems

to thrive best on a light loamy soil, while on others it deteriorates quickly and requires replanting occasionally. On heavy soils leaf mould and sand should be added, while the addition of some well decayed manure for the roots to work into will add to the vigour of the plants. When grouped judiciously in the herbaceous border they add a brightness to the garden at a period when there is often a gap between summer and autumn flowering plants.

JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

GREENHOUSE AND CONSERVATORY.

Richardia africana.—Plants that have been standing at the bottom of a wall and partially dried off, should now be turned out, and all the old soil shaken off the roots. They should then be placed into small or large pots according to the purpose for which they are required. If for indoor decoration, small pots, 6 ins. or 7 ins. in size, generally prove most useful. On the other hand, if quantities of cut flower are required, it is best to use larger pots, in fact, for this purpose it is a good plan to put them into boxes. As they are gross feeding plants, a very rich compost is necessary. Dried or well rotted cow manure may be added to the potting compost, or failing this, some old Mushroom bed manure. After potting, stand the plants in cold frames and water sparingly until they have made some fresh roots and have started into growth. Plants that have been outdoors for the summer may be lifted towards the middle of September and put into suitable sized pots or boxes.

Humea elegans.—If not already done, no time should be lost in sowing seeds of this desirable plant. This sowing should form the main batch of plants for next season. This plant is generally considered difficult, but given reasonable treatment it is quite easy. Cool treatment and great care at all times in regard to watering being necessary. The plants should never be allowed to become pot bound, but at the same time over potting must be avoided.

Cyclamen seed should be sown thinly this month in pots or pans, and stood in a house with an intermediate temperature, in which the young seedlings are best kept all the winter. A temperature of 50° to 55° being suitable. It is essential to have fresh seeds of Cyclamen, as old seed takes a long time to germinate.

Calceolarias of the herbaceous type should also be sown at this time. The seed is very fine and should be very lightly covered. Cover the pots with a piece of glass and keep shaded until the seed germinates. Calceolarias of this type thrive best in a light rich compost, and enjoy cool moist conditions at all times.

Mignonette.—Well grown plants of Mignonette are always much appreciated for the greenhouse or for indoor decoration, but with the exception of a few market growers, one seldom sees it well cultivated in pots. Provided a few essential details are observed it is by no means so difficult as is generally supposed. Unless the loam is very heavy it is not wise to add leaf soil to the potting compost. Sufficient coarse sand or old mortar rubble should be added to keep the whole porous, and lime in some form is essential. The soil should be rammed very firm, adding a little at a time. As Mignonette does not transplant readily the seed should be sown directly into the flowering pots, which may be 5 ins. or 6 ins. in size, afterwards thinning out the plants to one or three in a pot. After sowing and watering, stand the pots in a cold frame and shade until the seed germinates.

Fuchsias.—Well grown specimen Fuchsias are very useful for conservatory decoration and now is a good time to propagate plants for next year's flowering. Plants that have been lightly pruned back, and are started in slight warmth, soon give young growth which may be utilised for cuttings. These young shoots root very readily. After rooting they should be potted off singly and kept growing steadily. If standards are required the stems should be run up to the desired height before stopping, rubbing out all side shoots as they appear. If pyramids are desired the main stem should not be stopped, and the laterals as they appear should be allowed to develop, pinching them occasionally to form the foundation of the specimen. Potted on as they require it and kept liberally fed, they should in their second year make specimens some 7 ft. to 8 ft. high. During their second winter they should be kept dry in a frostproof shed. Such plants may be kept for many years, but they are so easily and quickly grown that it is not necessary to keep them after their second or third year.

There are few plants that are better suited for planting in conservatories or greenhouses, for training under the roof or for furnishing pillars and rafters. Planted out they grow freely and flower with wonderful profusion all through the summer and autumn months. They should be kept

drier at the roots during the winter and should be pruned hard back during the spring. For this purpose free growing varieties should be selected, such as Monarch, Lord Grenfell, Royal Purple and Rose of Castile.

J. COULTS.
Royal Botanic Gardens, Kew.

VEGETABLES ALL THE YEAR ROUND: SEPTEMBER OPERATIONS

The first article on this subject was in the nature of a general review, in which an endeavour was made to point out specifically things of paramount importance, and brief reference was made to the routine operations due in the months of July and August. It is now proposed to call attention to the details which make their urgent call in September.

IN a sense this is one of the most difficult months and certainly it is the one in which the inexperienced grower is likely to stray from the paths of rectitude. He has before him the splendid fruits of his earlier labours and his anxiety is keen to seize the full advantage of them. He has to decide, for instance, whether he shall push on with Potato and Onion harvesting or with spring Cabbage planting. If the Potato and Onion yields are heavy the work connected with them may demand all the time available until the end of the month and the wisdom of getting them garnered cannot be questioned for one moment. Nevertheless, it would be a most serious cultural error to fail to get a proportion of the young Cabbages to their permanent positions by or before the middle of the month and it is therefore recommended, as a general principle, that when harvesting and seeding or planting come into intimate competition, the latter should be regarded as the detail for first attention.

As a matter of fact September brings comparatively little seed sowing and planting. As far as the former is concerned the chief plant is Spinach, of which a sowing may be made about the middle of the month; the site should be in good heart, yet not rich, quite open and the drills should be set 15 ins. asunder, the plants being thinned gradually until they stand an equal distance apart in the rows. Winter Spinach is always more or less a doubtful crop in a small garden, as while it succeeds easily in some it refuses to flourish in others, though the management may be just as admirable. Then, Spinach is frequently unappreciated at the table, usually, one dares venture to affirm, because the autocrats of the kitchen do not prepare it correctly.

Seedlings of all kinds from seeds sown last month must be wisely thinned out, whether they are to remain *in situ* or moved to other quarters, because it is only the sturdy, hardy youngster which has made all its advance from the seed-leaf stage onwards under the influences of light and fresh air that will pass safely and satisfactorily through the winter.

In planting, the crop of outstanding importance is that of spring Cabbages, which are among the most highly welcomed of all vegetables. Choose a piece of ground that has been thoroughly prepared by deep digging and which has had some rotten manure, but not a heavy dressing. Make it firm, either by allowing ample time for settlement or by treading, and pack the soil firmly to the roots; the distance both in and between the rows will necessarily vary somewhat with the variety, but it should rarely be less than 15 ins. in all directions. Put out a batch in the first week and a second a fortnight or three weeks later. Plant also winter Lettuces. Late Broccoles or Kales, too, must be planted, in case they are needed in spring, and again planting must be firm in rather richer ground.

Crops in full productiveness, Scarlet Runners and Vegetable Marrows are typical examples, must have proper encouragement by the closest possible gathering and by supplies of water and, perhaps, food if it is deemed essential. Peas coming on for late bearing must be adequately supported; have the soil between the lines frequently hoed and generous mulching on light, poor sites.

All Potatoes should come out this month and they will be taken in turn according to their seasons of finishing. Cut off the tops a few days in advance as it facilitates lifting and assists the skins to harden, leave the tubers on the surface for a few hours, again to allow the skin to harden, and place in a temporary store where it will be easy to examine them at the end of the month and prior to permanent storage in a dark, absolutely frost-proof place. If seed sets are to be saved, which is not advised, separate them from the ware at this point and store in full light, with abundance of fresh air and complete safety from frost. Onions must be given plenty of time in full light and air with provision for protection from rain, before going to a store where the bulbs are fully exposed to light and fresh air and perfectly protected from damp; it is the latter, and not frost, which causes such disastrous losses in winter and spring.

Gather Tomatoes closely as they ripen and remove the growing points of the plants, if it has not been done already. Judicious reduction of foliage to ensure the admission of light and air to the finishing fruits may be practised advantageously, but it is not desirable that it shall be carried to the uttermost limit.

W. H. LODGE.

The Miniature Torch Lilies.—Comparatively few amateurs seem to be aware of the existence of the dwarf "Red-Hot Pokers," yet they are among the most priceless adornments of the late summer border. For the rock-garden they are ideal, while they are also excellent for cut flowers since they last several weeks in water. One of the best is *Kniphofia Nelsoni*, a real gem, which raises its 18 in. stems above deep green grassy foliage in August, each flower-head a blaze of fiery scarlet. On a ledge of very light but good soil in full sun this delightful plant will maintain a succession of brilliant "torches" right through to November, and in doing so strike just the right note of colour to harmonise with the rich and mellow effects of the passing year. Rather earlier (June-July) dwarfer and more golden in its spires is the dainty little *K. rufa*, while still more diminutive but not less brilliant is *K. pauciflora*, unfortunately not too hardy everywhere. *K. corallina*, one of the prettiest of the hybrids, also flowers in summer and, as its name suggests, its flowers are a vivid coral red passing to bright yellow. *K. Pfisteri* is similar to, if not identical with, *corallina*, but some nurserymen catalogue several others. All are quite easily grown and though old-established clumps are

the most desirable, these dwarf Torch Lilies do not resent moving, strong off-sets flowering freely the first season after transplanting.

A fine Strain of Calceolaria.—One wonders that more has not been seen of that exquisite little plant, *Calceolaria gracilis*, both in the cool greenhouse and for planting outside in cool shaded beds. It will succeed splendidly in the open air if the seed is sown late and the young plants are kept very cool so that flowering is retarded until June or July. The plants should be a perfect picture for many weeks. It is generally used as a cool house plant and here it flowers in May and June at the same time as the huge herbaceous varieties, but—how different! In place of the large solid flowers, a bloom about twice the size of the ordinary yellow bedding kind, with all the attractive spotting and colouring one meets in the larger type. The strain is known as *Calceolaria gracilis*, John Innes strain, and a mixed packet will provide a good range of colours and markings. Indoor culture is precisely similar to that afforded the large herbaceous kinds, always taking care that not one single degree of heat is used more than is necessary to exclude frost. Where it is intended to try them outdoors, sowing should be deferred until early September, doing it then very thinly so that they may pass the winter in the box in which they were sown. When active growth commences in spring, take them up and pot off singly in small pots and transfer them at the earliest possible moment to a cold frame with an ash bottom. This provides ideal conditions of growth, for it ensures that they are both cool and moist, items that favour healthy growth and freedom from pests. Harden off carefully and do not hurry planting out. Select a position for planting where the sun cannot scald the foliage or parch the soil; they like a quiet shaded place where strong winds will not break them. Droughty conditions must not be allowed. The plants reach a height of about 18 ins. and terminate in little sheaves of flower, to which the name "*gracilis*" is most suitably applied.

A New Scarlet Ivyleaf Geranium.—For many years Scarlet Crouse has held undisputed sway as the foremost scarlet ivyleaf and one must feel a deep debt of gratitude for the splendid way in which it has filled the rôle. A new star has, however, arisen called Sir Percy Blakeney, which eclipses the old time favourite. It will take a little time, of course, for it to become available in quantity and the price at present is considerable, but admirers of good "ivy-leaves" should not overlook this valuable plant. The flowers are semi-double and a real scarlet, borne in large trusses, with great freedom. It grows and branches freely so that it is not a difficult matter to work up stock rapidly. It is a fine outdoor variety and should prove extremely valuable for window box and basket work.

A Greenhouse Climber.—Those looking for a delightful and unusual roof climber for the greenhouse should consider the claims of *Abutilon insigne*, which requires only a cool temperature to do well, is extremely graceful and almost always in flower. It makes leaves of moderate size, so that it does not prejudice the growth of plants on the staging beneath. The leaves are borne on green brown-haired stems, the flowers of good size with open mouths on hanging peduncles. These flowers are very showy, white in colour, but so heavily overlaid by heavy markings of purple and red as to be almost obscured. The growth should be allowed to hang loosely to display the plant at its best. It is a native of Columbia and flowers from late January until well into October. Propagation can be effected by cuttings at any time, as it grows all the year through, although it will bear hard pruning well during winter and breaks into new growth freely after this.

ORCHARD

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THE RHODODENDRON DELL

THE present month is the best of all the year for transplanting evergreen Rhododendrons and, indeed, evergreens generally. Large specimens should have first attention, as plenty of new root before the ground becomes chilled is more important in their case than it is with smaller specimens. The ease with which quite large Rhododendrons can be removed is one of their principal recommendations, since they can without permanent detriment be used as fillings among permanent plantings of trees and shrubs.

It may sound a little banal to say that the Rhododendron is a woodland shrub, but it is only too evident as one goes about the country that this fact is still but imperfectly realised. These glorious plants will, of course, with proper attention both before planting and during growth, succeed in the open, but they are easier far to grow, and much more effective when grown, if partial shade from trees can be afforded.

There is a sharp difference of opinion as to whether the old purple Rhododendron ponticum, the many new species from the "roof of the world," or the brilliant hardy hybrids are most suitable for woodland. Surely the answer to this depends upon the interpretation one places upon the word "woodland." If purely natural effects are aimed at; if, in other words, the woodland is a delightful accessory to the garden—adjacent to it perhaps, but not of it—then Rhododendron ponticum, with the addition possibly of such small species as Rhododendron Veitchii, the yellow Honeysuckle Azalea and—if the climate be suitable—some of the more robust and paler of the Asiatic species, will alone be suitable. With them will be associated plants either native to Britain or which at least one might consider wild without too wide a stretch of imagination. Wild effect cannot be obtained with plants of noticeably exotic appearance, such as Bamboos or Aralias, nor with plants commonly

met with in flower borders, however suitable for the purpose they might otherwise be. Hollyhocks, Phloxes, Rhododendrons, Anchusas and Antirrhinums would thus be ruled out.

In many cases, however, natural timber is taken advantage of to provide suitable effects in the garden proper, effects which, without any straining after the purely natural, are yet obtained by a certain informality of planting. In such case all and every species and variety of

Rhododendron sufficiently hardy in the locality may be employed, care being taken, naturally, not to associate closely together colours which clash, although the danger of this is not so great as one might suppose from the space sometimes devoted to the matter in books and articles upon the Rhododendron.

When it comes to a selection of suitable sorts for this kind of planting, there is wide scope for individual taste. Were it not so there would hardly be more than 130 hardy hybrids listed in John Waterer's list alone.

Some sorts there are about which there will be a pretty general consensus of opinion by those in a position to hazard one. Everyone, for example, will wish to include Pink Pearl and probably that grand old rosy crimson variety Cynthia, though here some will truly point out that the foliage is not quite all that might be desired. Mrs. E. C. Stirling and Lady Clementina Mitford seem fairly obvious selections, the former with pinkish lilac and the latter with peach-coloured flowers. Among whites there is something to be said for Mme. Carvalho, Mrs. John Clutton, Gomer Waterer, Minnie and George Hardy, while the comparatively small-flowered The Bride makes a satisfactory specimen and a pleasing spectacle the attached picture will testify.

The brilliant but rather difficult colouring of Bagshot Ruby and Doncaster makes a big appeal to some, while others would rather be without it. Those who like the colouring should grow both varieties, as they are quite different in habit of growth, Bagshot Ruby being the more erect. The magnificent Loder's White everyone will wish to have who can procure it, and few will wish to omit Lady Eleanor Cathcart or Lady Grey Egerton or the deep salmon Mrs. Holford and the still brighter Mrs. F. Hankey.

The writer has a partiality for heavily spotted and blotched sorts, such as Marchioness of Lansdowne, Pictum, Sappho, Sigismund Rucker, Lord Eversley, Lady Annetta de



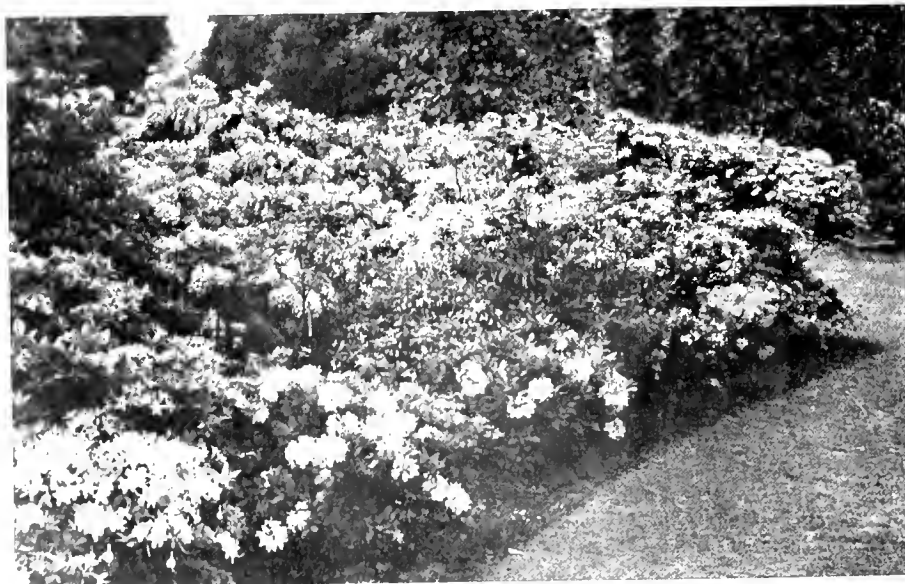
A HUGE BUSH OF RHODODENDRON THE BRIDE.



IN THE RHODODENDRON DELL AT KEW GARDENS.



RHODODENDRON MRS. E. C. STIRLING.



BEAUTIFUL MOLLIS AZALEAS.

Traford and F. B. Hayes, but there are many who have no other than those approximating to self colour, though they may make an exception in favour of the almost picotee-edged Helen Waterer. Others, again, are specially fond of the mauve tints. These are lucky in some respects, for with that range of colouring almost invariably goes exceptionally handsome foliage. *Everestianum*, *lastuosum flore pleno* and *Princess Ena* are recommendable in this colour.

There is something more than a form of words in the idea of a Rhododendron dell. It is true that when the individual specimens attain a considerable size, backed, as they should be, by taller plantings, a dell effect is produced even if the planting was originally upon quite level ground, but it is none the less desirable to aid this effect by a certain amount of contouring where tree roots and other obstacles permit it. Anything in the nature of steep banks must at all costs be avoided, since the Rhododendron, being shallow rooted, is exceedingly impatient of drought, so much so, in fact, that exceptionally hot and droughty summers like those of 1893, 1911 and 1921 killed off large numbers on quite level ground, in cases where watering could not be done and little or no shade was available.

Decayed and decaying vegetable matter in old woodland is the natural soil for the Rhododendron, even rotten wood, so detrimental to most forms of vegetation, seems beneficial rather than harmful to the Rhododendron. It may be that decaying wood facilitates the increase of the fungus which it is now generally recognised is necessary to the growth of the Rhododendron. The usual method of providing this decayed vegetable matter is to form beds of often, pure peat. Leaf-mould is certainly equal and probably superior to peat for the purpose, and spent hot-bed manure or well rotted cow dung is, when available, excellent. One-third part of such humus-providing ingredients will ordinarily be sufficient, the remaining two-thirds being a light turfy loam. Such compost will grow sturdier, healthier plants than will pure peat.

The fine roots of the Rhododendron cannot penetrate stiff loam, but if this is nearly or quite lime free, "Rhodos" may be grown successfully if the drainage is closely attended to and a foot of the proper compost provided either above the natural soil or in lieu of the top spit of it. On soils with any appreciable lime content it is quite impossible to grow American plants satisfactorily, though there are a few—a very few—exceptions which serve to emphasise the rule. Such are *Rhododendron ferrugineum*, *Erica carnea* and *E. mediterranea hybrida*, and the *Arbutuses*, which shew no objection to lime even when plentiful.

With the Rhododendrons it is usual to associate *Kalmias*. These are noticeably less showy than their more popular relatives, but are valuable because they provide colour when the Rhododendrons are over. *K. latifolia*, the Mountain Laurel, is the quickest growing, largest in leaf and latest to flower. Interest later in the year may readily be provided by planting various Lilies in groups among the bushes. Soil, shade and setting combine to make the Lilies do well and shew themselves to best advantage.

Many people like to associate the *Mollis* and *Ghent* Azaleas with Rhododendrons. A sure eye for colour is needed if this is to be managed successfully, though some of the softer yellow Azaleas go well with the more richly toned Rhododendrons. If Azaleas are available "on the spot," there is no need to wait until the leaf falls to remove them; they may be transplanted right away. The writer well remembers that somewhat unexpected building operations necessitated the removal in early August of a large specimen *Azalea mollis*, the ground being dust dry at the time and the weather droughty. The specimen had not previously been moved for probably twenty years, yet it transplanted perfectly and flowered much as usual not only the next spring but the one following!

SOME HARDY MALLOWS

The persistence with which that peculiar shade of silvery bluish rose, sometimes called mallow pink, runs through the whole of the Malvaceæ is the reason for treating several distinct genera together.

HARDY Mallows might well be thought to refer to the genus *Malva* but in the following notes it is intended to refer also to the closely related genera *Lavatera* and *Sidalcea* and the also related *Hollyhocks* (*Althæa*). The *Hibiscus* also are nearly related, but as shrubs—and stilted habited shrubs at that—hardly associate with the rest.

Of the true Mallows (*Malva*) the most useful species are *M. moschata* (the Musk Mallow of our own countryside) and *M. Alcea* with the very distinct sub-species *M. A. fastigiata*. The pure white variety of the Musk Mallow is perhaps even more charming than the typical *Malva Alcea* is a taller species, with the characteristic Mallow colouring at its deepest and, consequently, most "difficult" tint. *M. A. fastigiata* once classed as a species—*M. Morenii*—is more upright growing and the flowers are reddish. *Malva campanulatum*, occasionally met with in very mild districts, is an admirable dwarf species, but tender.

Of the *Lavateras*, which may be described as sub-shrubby Mallows, the two best are probably *L. Olbia*, which is tall enough for the back of the border and bears large and showy flowers in the utmost profusion, and the more slender, but perhaps even more beautiful, *L. thuringiaca*, which, excellent in the border, is even more admirable when naturalised in woodland or on wild banks where it grows as readily as the Musk and Marsh Mallows. *Lavatera trimestris* is an annual—a much improved annual be it said—not unlike *L. Olbia* in appearance and valuable for filling temporarily the gaps which always occur even in the best managed gardens. It may be had with white flowers or with those of some rather deep shade of Mallow pink. The best and deepest form of this is probably that known by Messrs. Sutton as *Loveliness*. The biennial species, *Lavatera arborea* is often used for "sub-tropical" bedding but is fairly hardy and may be sown outdoors in autumn in suitable spots. There is a rather handsome variegated form.

The Greek Mallows (*Sidalcea*) so called, as the Irishman said, "because they come from North America" are perhaps more graceful than most of the *Lavateras*, having smaller flowers on spikes somewhat reminiscent of the *Hollyhock*. Though

perennial the *Sidalceas* are not long lived plants but they are readily renewed from seed. *Sidalcea* *Rosy Gem* is one of the best. It has a pure white counterpart listed as *S. candida*. *S. malviflora* is considerably larger both in plant and flower, its flowers are deeper in colour, bordering on purple in fact. More pleasing in colour is *S. Listeri*, with soft silvery rose flowers. *S. spicata* is another worth growing, it produces purple rose cups.

Of the *Althæas*, the varieties usually grown in gardens are the true *Hollyhocks* (forms of *A. rosea*), but others are sometimes met with in gardens, and



THE SILVERY PINK HOLLYHOCK PALLING BELLE.

one, the Marsh Mallow (*Althæa officinalis*) is an English wild flower, and a very beautiful one. *A. ficifolia* is the fig-leaved or Antwerp Hollyhock, with beautiful single yellow flowers. Of more branching habit than the forms of *A. rosea*, it is a short lived plant, being practically if not actually a biennial.

The double Hollyhock in its many colour forms is the product of centuries of endeavour, but the now popular single forms are equally beautiful and more suitable to many situations. A deep rich well cultivated soil is necessary if the Hollyhock is to be seen at its best. Stately port should be its chief characteristic, and this can only be obtained if good culture obtains. Even for garden decoration

it is unwise to leave more than, say, four spikes on even the strongest plants, as a multiplicity of spikes destroys the vigour of the plant. The thinning should be done as soon as the plants have attained a height of a foot at most. Less vigorous plants should be thinned to two spikes or one, according to their strength or weakness.

Named varieties of Hollyhock are very beautiful, but for garden decoration it is surprising how true to colour and how good in form seedlings come. Seed may be sown now, and if the young plants are pricked out, grown on and potted off, and planted out next April they will all flower well next summer and early autumn. The crimson and soft yellow varieties are invaluable for associating with blue *Delphiniums* and such like while the silvery pink and rose shades are invaluable in a section of the border devoted to Mallow pinks and dilute purples and grey foliage.

When thinning growths in spring it is well to save the thinned shoots for cuttings, which root fairly readily with a little bottom heat.

On stiff soils, Hollyhocks often die off in winter. This may largely be prevented by removing the heavy loam from around the collar of the plant and replacing it with sharp sand or clean and sharp, but spent ashes. Staking is very necessary with Hollyhocks as the great spikes easily twist off at the crown but it is unnecessary to supply tall stakes. If the stakes, when driven in, stand 3ft. out of the ground, this should prove ample.

The Hollyhock may be and often is grown in beds as shewn in the accompanying picture of that beautiful variety *Palling Belle*. This method of culture should never be adopted however, if trouble is experienced with the Hollyhock Fungus (*Puccinia malvacearum*) which always first attacks the lower leaves. Dusting the undersides of the leaves with flowers of sulphur or spraying with liver of sulphur is a wise precaution against attacks by this pest, or Messrs Vert of Saffron Walden who specialise in this flower, supply a very efficient powder for the same purpose. None the less if trouble has previously been experienced with the fungus, it is wiser to reserve the Hollyhocks for grouping at the back of the herbaceous border or way back in openings in the shrubbery. Dying foliage on the Hollyhock is not always caused by rust, which is easily distinguished by the circular spore-cases on the undersides of the leaves. Red spider also is a serious enemy and in dry seasons often does immense damage. Good culture will do much to minimise the trouble but it is a wise precaution to soak young plants in soapy water for an hour or so before planting out, as red spider is but too prevalent under glass. Syringing the plants each evening in hot weather serves the double object of encouraging growth and keeping down thrips, which also are sometimes very troublesome.

If a large stock is desired of a particularly good variety (unaffected by rust), a quick way of increasing it is to use any available side shoots or small spikes and cut them up into lengths with a single joint and eye to each and keep them close, and, of course, shaded from sun heat. Almost every cutting should break and produce a young plant which, properly treated, will flower well the following season.

FORTHCOMING EVENTS.

September 5.—Royal Horticultural Society's Fortnightly Meeting. Caledonian Horticultural Society's Meeting.

September 6.—National Dahlia Society's Annual Show, to be held at the R.H.S. Hall.

September 8.—Paisley Florists' Society's Meeting.

September 9.—Ringwood Horticultural Society's Meeting.

BULB ORDERS.—II

More about Daffodils—Varieties for Pots—A Garden Twelve—Tulips—The Influence of Fashion.

AT the end of my first instalment of Bulb Order notes I got upon the subject of Daffodils and I suggested a trial of Cervantes for planting in pots as a first early and the investment in a little stock of Comtess of Southesk for growing on for providing some dainty cut flowers.

I thoroughly sympathise with poor Persephone as Jean Ingelow depicts her wandering on and on in the "Meadows of Enna" as beauty after beauty caught her eye.

"Lo! one she marked of rarer
growth
Than orchis or anemone;
For if the maiden left them
both,
And parted from her com-
pany,
Drawn nigh she deemed it fatter
still,
And stooped to gather by the
rill
The daffodil, the daffodil."

Persephone, by Jean Ingelow.

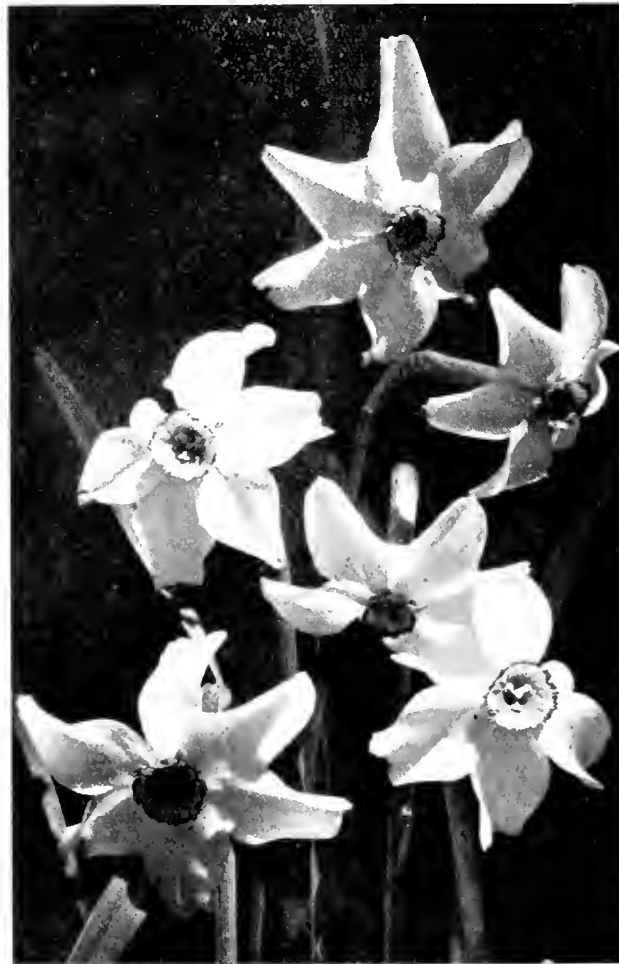
Anyone, like Persephone, could easily wander on and on and never know where to stop when engaged in singling out some of the best. There are so many varieties in the modern list of any firm that rather makes a speciality of the Daffodil. One must become a double distilled eclectic to make at all a decent job of it. Let me give a concrete example. We have two singularly beautiful small cupped Leedsii's in White Lady and Evangeline. In selecting, say, a dozen different varieties for the garden, there is hardly room for both. Which is to be taken, and which left?

Again to take an extreme case, let me suppose, out of all the varieties and species of Daffodils produced by wanton Nature or by the skill or luck of man, I was only allowed to have three in my garden, which would I select? If to-day I sodd Emperor, Barni conspicuus and Poetions recurvus; to-morrow it might be Emperor, White Lady and Virgil.

In what follows I am just going to make a few suggestions of varieties that I think are worth a trial. In a general way almost all the red eyes and red-edged cups and eyes are much more beautiful under glass, flowering as they do when the sun has considerably less power, than when their natural time comes when they are grown out of doors. Lady Moore is extraordinarily good in a greenhouse, but except for a few short hours it is nothing in the open.

Firebrand with its deep red cup is among my special favourites under glass, so too are Blackwell, Sunrise, Homer and the new poetaz Orange Blossom. This last is the result of a similar cross to that by means of which Van der Schoot produced his well known Elviza, Alsace and Jaune à Merveille but I am told the seed bearer was the Tazetta (Polyanthus) variety and not the Poetions as in the old strain. Anyhow the substantial white perianth with its rich orange spreading centre makes a most

attractive flower. In all but the southern parts of England it must have ample protection if it is planted in the open. So many people object to the strong perfume of the ancient Tazettas, and always give them a miss when making out their order on this account. These once all-important varieties, which alone were noticed by George Glenny in his little book on the properties of flowers in the middle of last century, seem to be slowly dropping out of favour and being supplanted by the new poetaz. I should like to mention Admiration, Helios and



THE FRAGRANT POET'S NARCISSUS.

Orange Cup as three good ones well worth a trial. The time will come when the Giant Leedsii will be cheap enough to use for pot work—Norah Pearson and Capella are two which would give a good run for anyone's money. But here I am, wandering on and on and doing exactly what I did not intend to do, and I have only got as far as pots! *Pecavi*. To make amends, I will just give a list of what I might order if I wanted a good dozen for my own planting in the open: Emperor, Argent, White Lady, Mrs. W. O. Wolsley, Virgil, Kingsley, Great Warley, Blackwell, Lucifer, Steadfast, Weardale, Perfection and the Rugulosus variety of Campanelle Jonquils.

And now to come to the Tulip family. Mistress Daffodil and old Mother Tulip, like the old woman who lived in a shoe, have so many children that the perplexed gardener does not know what to do when

he sees the tens of varieties in one of our modern catalogues. No one wishes to order them all. If, in the days of John Rea and Samuel Gilbert—that is in the middle years of the seventeenth century—it was "which Agot?" or "which Paragon?" so now it is "which Cottage?" and "which Darwin?"; or, as glass-houses have become so common, "which must it be for pots and which for the garden?" My purpose once again—as in the case of the Daffodil—is neither to give detailed selections from the various sections into which the Tulip family has been divided for gardening purposes (see the R.H.S. Tulip book), nor to point out with any measure of fulness which will be the best for rock-work, greenhouse or open ground, but rather in a haphazard sort of way to suggest for the consideration of purchasers some of those which at the present appeal very strongly to myself. I have recently received Sutton's 1922 Catalogue and on the very first page among the very select selection of "new and interesting bulbs possessing exceptional merits" I find three Tulips, Fireglow (syn. De Wet), The Fairy and Canary Queen. I know the first and last ones very well indeed. Few varieties are more beautiful under glass if only they are not hurried into a too-early flowering stage. Few are more taking in the open garden. I can never forget my first sight of Fireglow decorating a typical room in a Woman's Industrial Exhibition at Amsterdam and how excited I became until I had found out what it was and where it came from. It is a sport of the famous Prince of Austria in which the yellow and red colouring has become separated, and on close inspection is seen to form a very delicate network, while at a distance the effect is that of a very bright orange red. Canary Queen, very tall and stately and so refined looking with the dainty lemon edging of its delicate primrose coloured petals, is a gem of the first water under glass, and it is just as pleasing in the open, only the distinction between the edge and the ground colour is not so clearly brought out. It blooms about the same time as White Swan. The Fairy, which is described as a glistening white Parrot Tulip, delicately tinted with rose, is entirely new to me. I have never seen it, but Fantasy, another novelty of the same type I have seen. It is a sport or development from the well known Clara Butt and has all the charm of that beautiful flower in its colouring. To those who like the Bohemian deshabille of the Parrots, I commend this startling new comer. How is it that every rock garden in the length of the land has not its patch of the bright little yellow and white Tulipa dasystemon? "Where are you going, my pretty maid? I'm going a milking, Sir, she said." That's just it. It is the innocent looking freshness of dasystemon that is so charming. Everything is influenced by fashion. Tulips are no exception. It was all stripes, feathers, and flames when the belles of seventeenth-century Paris wore them in their dresses. It was the same in the first half of the last century when the drab lives of many artisans in northern England were relieved by the pleasure of their culture, culminating in the struggle at the Ring o' Bells for the time-honoured copper kettle. Now it is selfs. We call them Cottage varieties and Darwin varieties. The popular taste just now I think is for mauves, such as Melicette, Euterpe and Oliphant—three of the very best—and pinks such as the ever popular Clara Butt and Sophrosyne and Suzon. The year, however, the head gardener of a neighbouring Hall came along and said "No colour was like bright red in a garden." I pointed out Goldfinder, Scarlet Emperor and Marksman. He quite agreed he could not have much better varieties, although it is very likely he would have wished Goldfinder to be rather bigger than it is. The Darwins, Home and North Dakota, might also be included among

the very brilliant scarlets. They come very near. It is strange how our love for past favourites suddenly revives. I have been quite dotty over Petrus Hondius this year. It must be a case of great minds etc. etc. for in Pearson and Sons 1922 List I read, "Has been much admired of late."

It is described as "a rich rose, and very beautiful and quite distinct." I do not grudge old Hondius this fascinating flower, although he was somewhat of a Jeremiah over the growing taste for Tulips. His warnings fell on deaf ears, and the mania (1635-37) was the result. JOSEPH JACOB.

The EVOLUTION of the GLADIOLUS—I

The Primulinus Hybrids.

THE hybrids of *Gladiolus primulinus* are legion. Fashionable flowers of the moment, they have inspired hybridisers the world over, and the ease with which they can be raised from seed has brought many amateurs into the ranks of the producers. But while these hybrids are certainly fashionable flowers of the moment, their popularity is not for the moment only. They have come to stay and to increase in popular favour year by year. The happy discovery of the primulinus species infused new interest into the cultivation of Gladioli. Its introduction has given grace to a family of plants which hitherto wrested attention by a massive and formal display of gorgeous colour, but which failed to win the sympathies of many people because of a too compact and rather stiff habit of growth. Not only are the flowers of the primulinus species arranged more loosely on the spikes, but the latter themselves are more slender and tapering, giving altogether a more refined aspect to the plant, which is further enhanced by the hooded formation of the bloom and the extreme delicacy of the yellow, orange and saffron tints so frequently found therein. So far the primulinus hybrids have

remained in a class by themselves, distinguished from all others by the characteristics mentioned, but what the future holds for them is a matter of some concern to interested growers. Already certain varieties listed as primulinus hybrids are barely distinguishable from the large-flowered section, and if the public taste, which so often sacrifices the more refined pleasures of appreciation for mere size, is going to fall into this error as regards these hybrids, then before many years we shall have only one word to describe every section of the *Gladiolus* family and that one word will be merely—*Gladiolus*. However, that time is not yet, and it may be long delayed by the discriminating taste of originators themselves. Practically the only path along which evolution of the *Gladiolus* has progressed is by means of crossing the varieties and species in our possession and the resulting selection from the seedlings obtained thereby. Until only the last few years amateur gardeners seem to have been entirely ignorant of the ease with which Gladioli can be raised from seed. At our own place we flower hundreds of seedlings six months after sowing and have repeatedly shown the flower spikes thus grown at the fortnightly meetings of the Royal Horticultural Society.

I have no hesitation in giving our friends in the United States premier place in the production of new varieties of the primulinus hybrids. Those illustrated here are both of American origin. *White Butterfly* is a novelty of 1922 and is perhaps the purest white yet attained in this section. *Argo*, styled the primulinus *Myrtle*, is a lovely salmon rose with pastel cream throat, large enough in flower, but lacking nothing in graceful bearing and a fine fresh looking colour.

It is not my intention to give a catalogue of varieties, but a selection, taken as the flowers are open, of those that most appeal to me, would in all probability also please the eye of average colour sense. As we have already touched on American varieties, we might here note *Butterboy*, which gained an award of merit for us a week or two ago. This is a large well hooded flower of almost buttercup yellow, with just a hue of dark brown down each of the lower segments, very handsome.



GLADIOLUS PRIMULINUS WHITE BUTTERFLY.

Golden Gleam is of richest orange saffron with more of the former than the latter and an intensely bright shade at that. What a rare sunny splash of colour this makes in the border! *Alice Tiplady*, thoroughly established as one of the primulinus "classics," has something of *Golden Gleam* colour, but here the saffron tinge predominates. This one should always be included in a collection, as so should *Altair*, one of the loveliest of the lot, described as salmon saffron, anyway a real beauty. Then there is *Eden*, pale salmon pink deepening to the edges, the lower segments being mostly cream with a picotee edge of bluish pink, a favourite this with all who see it. *Utopia* and *Zenobia* are both superbly showy, the former in shades of salmon and the latter richest orange-red, near to a scarlet. *Salmon Beauty* is very fine, the yellow throat setting off the wing colours to perfection. *Cantopus* is a very lovely pale yellow, deeper in the lower segments and in the same class are *Anita* and *Elberton*, yet each is quite distinct. *Topaz*, salmon buff, very pretty form, and *Enon*, creamy yellow and orange, are lovely in the softer tones and *Firefly*, *Capella*, *Midsummer Dream* and *Sonia* are conspicuous for their strong shades of red and scarlet.

Among the English raised hybrids, Major Churcher claims *Woodcote* and *Otranto*. These I consider are two of the finest sorts yet brought to light, but the same gentleman has some very choice seedlings in the making. *Woodcote* is the softest of coral scarlets, with a large cream yellow blotch, perfect in form and well placed on the spike. *Otranto* is a maize yellow with beautiful red lines in the throat and just a flush of rose on the shoulders of the upper petals; one of our best hybrids. Messrs. Kelway have some fine varieties in their "Langrim" group, of which *Lieutenant Kelway*, *Ella Kelway* and *Superior* are noteworthy. J. L. GIBSON.



GLADIOLUS PRIMULINUS ARGO.

GLADIOLI AND OTHER HARDY FLOWERS AT VINCENT SQUARE

ON entering the Royal Horticultural Society's Hall on August 22 the visitor felt that it was a Gladiolus Show, for large quantities of handsome spikes seemed to dominate there, and, while it was seen that there were plenty of other flowers, the many exhibits of Gladioli claimed most attention. The most attractive collection was by Messrs Sutton and Sons and this was set up with all the skill and taste expected from the Reading firm. The glorious vivid colour of such sorts as Red Emperor, Captain Fryatt and Electra was freely remarked upon, as also was a large bowl of the glowing salmon pink Prince of Wales. White Giant, Brimstone and the rich yellow Lucie were equally admirable representatives. These were all of the large-flowered type, which also predominated in a large collection by Messrs. Kelway and Sons that included many of the graceful primulinus hybrids. Of their large-flowered sorts many visitors were fascinated by those which have an intense blood red blotch on the lower segment in such startling contrast to the milk white or creamy yellow of the remainder of the flowers. Notable examples of these are Golden Dawn, Lady Fare, Sunspot and Lady Montague.

The primulinus hybrids were especially beautiful in a collection by Messrs. Lowe and Gibson, who included the variety Butter Boy, which recently had an award of merit. Maiden's Blush, Altair

and Niobe were also delightful. A couple of blue sorts—Duc de Massa and Blue Isle, were very striking in Major Churcher's collection, and primulinus hybrids were also well shewn by Messrs. R. H. Bath, Limited.

Goodly collections of Dahlias were rather expected, as the valuable Cory Cup was offered for the best representative exhibit, but only Messrs. J. Cheal and Sons entered for the Cup, and by some unfortunate muddle their exhibit was considered in relation to the border flowers by the committee, and was even described officially as consisting of hardy plants. Among the various types of Dahlia on show was the Anemone-flowered Mons. C. Dupont, which many thought was a new type, but it was raised



THE ANEMONE-FLOWERED DAHLIA MONS. C. DUPONT.
Flowers of a purplish crimson shading.



THE FRAGRANT BLOOMS OF MAGNOLIA GRANDIFLORA
EXMOUTH VAR.

in France some years ago. The compact flowers are of fascinating purplish crimson shading. Messrs. Jarman and Company also had some Dahlias, but their Sweet Sultans were even better.

The general floral exhibits included Heleniums, Hollyhocks, Phlox and such, while Mr. C. Turner had a vase of most beautiful blooms of Magnolia grandiflora Exmouth variety, which flowers at an earlier age than the species.

Among the Orchids, the chief exhibit was the wonderful gold medal collection of Lælio-Cattleyas by Baron Bruno Schröder. There were 100 plants, which the committee considered to be the finest ever shewn, and Mr. Shill, the gardener, was awarded the silver-gilt Lindley medal for cultivation.

Roses and Carnations were again shewn in great beauty. Among a display of Roses by Messrs. D. Prior and Son there was a vase of Ideal, a new velvety dark crimson little Polyantha which seems quite distinct. Mr. Pemberton shewed the value of massing several of his free-flowering sorts, such as Vanity, Aurora and Mermaid.

Great interest was centred in the excellent exhibit of Black Hambro Grapes from the gardens of Mr. J. A. Nix, Tilgate. Each of the sixteen bunches was very shapely, and the berries were sloe-black, thus indicating expert cultivation. Messrs. Daniel Brothers had large mounds of gathered fruit as well as fruiting branches of their September Black Currant. This variety, which received a first-class certificate last year, bears immense berries in great profusion. The fruits are of excellent flavour. An uncommon exhibit was the splendid collection of vegetables shewn by the members of the High Wycombe and District Horticultural Society. Practically all seasonable vegetables and salads were represented, the Peas, Beans, Carrots, Leeks and Potatoes being of very high quality.

NEW AND RARE PLANTS.

Aster hybridus luteus.—This moderately dwarf herbaceous plant will appeal to those who like a mass of bloom rather than individual flowers of fair size. It makes dense, flattish

heads of yellow flowers. The foliage is almost negligible—the leaves are short and narrow. Award of merit to Mr. Amos Perry.

Gladiolus Rarity.—A medium-sized spike, well furnished with widely expanded flowers of fascinating soft shell pink colour. The lower segment has a crimson-lake blotch. Shewn by Messrs. Lowe and Gibson.

Helianthus multiflorus Loddon Gold.—In general characteristics this is a glorified form of the old perennial double Sunflower. The flowers are much larger than those of the old favourite, and they are of a rich yellow. It is distinctly a plant for the back of the hardy flower border. Award of merit to Mr. Thomas Carlile.

Dipteronia sinensis.—It is rather difficult to understand why this deciduous tree received an award. It has no floral beauty and its chief attraction must be the clusters of flattish pairs of winged seed vessels, which are little, if any, more ornamental than those of the Wych Elm or the Hop Tree (*Ptelea tritoliata*). The pinnate leaves, which are about oins. long, are decidedly less ornamental than those of many other trees—the Tree of Heaven (*Ailanthus glandulosa*), for instance. *Dipteronia sinensis* was introduced by Wilson from Central China in or about 1900. It becomes a small tree about 25ft. in height. Award of merit to the Hon. Vicary Gibbs.

Rosa Sweginzowii.—This is an ugly name for a spreading Rose that is very handsome when in fruit. The bright crimson haws are of inverted urn-shape and glow with colour, and the neat, tern-like leaves are somewhat like those of *Rosa sericea*. The plant was raised from seed collected by the late Mr. R. Farrar. Wilson is of the opinion that it is a geographical form of *R. setipoda*. Award of merit to the Director, R.H.S. Gardens, Wisley.

Lælio-Cattleya Golden Light.—Three large blooms of this handsome new hybrid were shewn. The sepals and petals are coloured reddish orange, while the lip is tinged with ruby-red. Award of merit to Lieutenant-Colonel Sir George Holford.

Lælio-Cattleya Idina.—A very beautiful bloom with mauve sepals and petals, a violet-purple lip and yellow disc. Award of merit to Messrs. Flory and Black.

Lælio-Cattleya Sargon.—The broad sepals and petals are heavily stippled with rosy mauve and the lip is ruby-crimson. Award of merit to Lieutenant-Colonel Sir George Holford.

NEW DAHLIAS.

The Joint Dahlia Committee met for the first time and, following the recent custom, selected the best varieties for trial at Wisley.

Bronze Star.—This appears to be rather a poor type of Star Dahlia. The flowers were of indifferent shape and hung their heads. The colour is a bronzy apricot. Shewn by Messrs. J. Cheal and Sons.

Estacy.—The name is obscure, and one wonders whether Estacy is not meant. However, it is a beautiful flower of large size and, although a Cactus variety, much like the Decorative type. The colour is a bright mauve with a milky white centre. Shewn by Messrs. Stredwick and Son.

Gatton Star.—Unlike the first-named variety, this is a worthy addition to the not inconsiderable number of elegant Star Dahlias. The colour is orange-buff shaded with purplish mauve. Shewn by Messrs. J. Cheal and Sons.

Megantic.—An excellent exhibition Cactus Dahlia of perfect form. The rolled petals have incurving tips and the pale yellow colour of the unexpanded florets develops into pale apricot.

Noble.—An immense but not coarse Decorative variety. The shapely blooms are borne on stout, erect stalks, so that it should be a good sort for



THE BRIGHT CRIMSON HIPS OF ROSA SWEGINZOWII.

the garden as well as for house decoration. The warm scarlet colour pales towards the tips of the petals.

Signal.—This is a highly decorative Cactus variety of star-like appearance. The pale brick-red rolled florets are almost straight.

Siren.—A medium-sized Decorative bloom of perfect form. The broad petals are regularly stippled with rosy mauve on a creamy ground.

Skyrocket.—A handsome Cactus variety which has long rolled florets that curve inwards at the tips. The colour is rosy purple, with a golden bronze centre.

Yellow Queen.—This rich golden yellow Decorative variety is of immense size, but perfect form and possesses good substance. The last six varieties were shewn by Messrs. J. Stredwick and Son.

THE LATE SUMMER BORDER

THE herbaceous border is very often less of a success at this season than it is earlier in the summer. It is quite easy to have a fine display of flowers in June and July, but when that is over there are often sad gaps to be seen, and the general display of flowers is much diminished. It is well, therefore, to consider the border very carefully at that season of the year—note book in hand—and to make careful note of the arrangement of plants as regards colour, height, form, season of flowering and numerical proportion, since the less left to the memory the better. It is so easy to forget, long before planting time comes, the many little differences in shades and manner of growth on which the real success of the planting for the next year will depend. A few fortunate people have the colour sense exceptionally well developed, and the colour memory equally so, but the majority cannot safely trust to these, and are wise to have a good note book, and to try various combinations of flowers either in vases or held loosely in the hand. There will often be surprises. Even plants of exactly the same shade of colour as regards the flowers do not always make good neighbours; their manner of growth and the actual form of the flower itself may prevent an entirely satisfactory combination.

Sufficient attention is, indeed, seldom paid to this point; colour is the chief study, and only a comparatively small notice given to the form in which that colour is displayed beyond inquiring the height of the plant. Numerical proportion, too,

is seldom considered very much; the usual plan is to put a patch of each plant, varying it according to the size of the plants and the number of them at the gardener's disposal. But a combination of colours to be quite satisfactory will depend largely on the numerical proportion of each shade in the mixture. The writer was greatly struck, earlier in the season, by this point when looking at a long border in a large garden. The elderly head gardener, a man with an unusually good eye for colour, said that it had really been a chance planting, but seemed so successful and uncommon that he had had it left undisturbed. It was a daring mixture of red and pink Valerian and double scarlet Geum. The crimson Valerian appeared to predominate, and the Geum was considerably in the minority, and the effect was gorgeous, but would in all probability have been quite spoilt had either the scarlet or the pink been the principal partner.

Of course many people work closely to a colour scheme that does not admit of experiments of this sort, but in these days when variety is so much appreciated, and there is a great love of rather bright and uncommon mixtures of colour, it may often be possible to let the herbaceous border benefit.

Phloxes are perhaps the mainstay of this border, but they need careful arrangement both as regards colour and height if they are to make a thoroughly successful effect. Shades, beautiful in themselves, may be "just wrong" grown next to an equally beautiful one which does not quite tone in,

and it would be very easy to waste half the effect of those whose growth is short by putting them behind those of a taller habit. Hollyhocks, too, where they can be successfully grown, will make a splendid effect in this late border.

Other plants which should not be forgotten are *Gypsophila paniculata* (the double flowered variety being the best and showiest), *Anthemis tinctoria*, *Helium autumnale* var. *magnificum*, *Helium cupreum* and the tall growing *Helium Golden*

Glow, *Rudbeckia digitata* (another tall yellow perennial), *Statice latifolia* and *Aster acris*. Dahlias of all sorts of course, as well as Pentstemons, can be included, and will help greatly to enliven the border, but they both require more attention than many people care to give to the occupants of the herbaceous border.

Lastly, it should not be forgotten that the easiest way to avoid the possibility of large and unsightly gaps is to arrange each kind of plant, not in the

usual rather rounded clump, but in a long and rather narrow stretch or "drift," as Miss Jekyll calls it. Then when a plant has finished blooming and can be cut down, its neighbours, if judiciously chosen to follow on in the flowering period, will spread and, to some extent at least, cover the space. This plan, however, certainly calls for more care in arrangement of colours, since the plants intermingle through the border in longer lines. The effect if the job is well carried out, will be far better. A. E. W.

GREENHOUSE PLANTS

Every year provides additions to the already long list of lovers of greenhouse plants. The following, largely tabulated, information should therefore prove helpful.

IT is only in our large nurseries where it is possible to have a fairly complete collection of greenhouse plants. Although there are many kinds besides those in the table, the latter contains the most suitable ones for a beginner and will prove to be a helpful guide.

COMPOSTS FOR CUTTINGS AND SEEDS.

Only a small bulk of soil is needed for the above, so that it is essential to success that the ingredients be of the best. Let no one be tempted to use ordinary garden soil, it is far better to purchase a bushel or two of suitable soils are not available at home. Where it is convenient to procure sound peat, leaf soil and fibrous loam, these should always be kept in stock for use as required. Well rotted loam, two parts; leaf soil, one part; and coarse sand, one part, will generally speaking be a suitable compost both for rooting cuttings and for raising seeds. For the benefit of Palms, more loam and less leaf soil must be used. For such hard-wooded plants as Azaleas, add more leaf soil or peat and less loam. The general mixture as apportioned above will do nicely for the general run of plants such as Zonals, Abutilons, Cannas, etc.

Seed or cutting pots should be clean inside and out, the crocks also; the sand should first be washed and dried; for seeds the pots or pans must be filled with the prepared soil, watered and then left to drain for one hour before sowing. For cuttings the soil must be in a medium state of moisture and the inserted cuttings watered in. The soil should be firm and well surfaced with sand.

The average length of a cutting is 5ins. The cuttings should always be severed with a sharp knife immediately below a joint and the leaves from that joint cut off.

REPOTTING.

The transplanting of seedlings or the repotting of rooted cuttings should be accomplished by first transferring them singly to small pots (in the case of cuttings) and then, as roots become plentiful, to larger pots, till the final potting is reached. A too big shift—from a tiny pot to a large one—is wrong. The general run of seedlings are all the better if first transplanted into other pans or boxes several inches apart before the actual potting of them begins. Finer composts for seeds and cuttings and gradually coarser ones, as the plants are shifted to larger pots, should be the rule.

WATERING.

Seedlings and cuttings should be watered with a good watering-can, and not in full sunshine; some shade will be required when the sun shines brightly. Early morning and evening are the best times to apply water in spring and summer, and early morning only during the late autumn and winter

months. Tepid water and rain water are better than cold or pipe water.

VENTILATION AND TEMPERATURES.

Sudden rises of temperature are harmful. In the winter the day temperature should be from 40° to 50° F., the night temperature not falling much below 40°. Owing to sudden changes from comparatively mild to severe—often frosty—weather, there should be a range of 10° in a greenhouse; it is better to be rather low, with safety,

than high, with the aid of very hot pipes, during frosts.

The ventilators must be used judiciously to regulate the internal heat, opening to prevent it becoming too hot and closing to husband sun heat and so prevent a sudden lowering of the internal heat. Cold draughts must always be guarded against, but especially in spring. In summer time both ventilation and temperatures are more easily managed. GEORGE GARNER.

HOW TO RAISE AND TREAT USEFUL GREENHOUSE PLANTS.

Kind of Plant.	Method of Propagation.	Date of Sowing or Striking.	Pots for Final Potting.	Date of Flowering.
Abutilon	Cuttings	Early spring ..	6in. ..	All summer.
Anthericum variegatum ..	Roots and seeds ..	When ripe ..	4-6in. ..	Orn. foliage.
Aralia Sieboldii (Fatsia japonica)	Cuttings of ripe wood	Autumn and spring	5in. ..	Orn. foliage.
Araucaria excelsa	Seeds and cuttings	Spring under glass	4-6in. ..	Orn. foliage.
Aranis Lily	Division	Summer	4-12in. ..	August-Easter.
Aspidistra lurida	Division	Spring	Various	Orn. foliage.
Azaleas (In lian)	Cuttings	Early summer ..	4-12in. ..	Autumn to spring.
Balsams	Seeds	March-April ..	6in. ..	August.
Begonias (tuberous)	Seeds	January-April ..	7in. ..	June-September.
(fibrous)	Cuttings	Late spring ..	6ins. ..	Aut., early winter
Bouvardias	Cuttings	March	6in. ..	Autumn, winter.
Browallia elata	Seeds	Spring	5in. ..	Summer.
Caleochara	Seeds	June	7in. ..	Spring, early sum
Campanula isophylla	Division	Spring	6in. ..	Summer.
(pyramidalis)	Seeds	March	7-10 in. ..	Summer.
Cannas	Seeds and division	March	7in. ..	Summer.
Cebosias	Seeds	March	6in. ..	Late summer.
Carnations	Seeds and cuttings	January-March ..	7in. ..	All year.
Cineraria	Seeds	April-June	7in. ..	Winter, spring.
Clematis indivisa	Cuttings	Summer	12in. ..	Spring.
Cobaea scandens variegata	Seeds	Spring	12in. ..	Climber.
Clarkia elegans	Seeds	Spring	6in. ..	Early summer
Colens	Seeds and cuttings	Spring	8in. ..	Orn. foliage.
Crassula coccinea	Cuttings	After flowering ..	5-7in. ..	Summer.
Cyclamen	Seeds	June-July	5-8in. ..	Autumn-spring.
Cyperus alternifolius var.	Division	Spring	6in. ..	Orn. foliage.
Cytisus racemosus	Seeds	Spring	8in. ..	Summer.
Epaeris	Cuttings	Spring	6in. ..	Spring.
Erica	Cuttings	Spring	6in. ..	Spring-summer.
Eucalyptus	Seeds	Spring	12in. ..	Orn. foliage.
Eulalia	Division	Spring	6in. ..	Orn. foliage.
Eupatorium	Cuttings	Spring	8in. ..	Summer.
Fuchsias	Cuttings	Spring	10in. ..	Summer.
Gloxinias	Seeds	Spring	7in. ..	Summer.
Grevillea robusta	Seeds	Spring	6in. ..	Orn. foliage.
Heliotrope	Cuttings	Autumn and spring	7in. ..	Summer.
Hippeastrum	Seeds and offsets	Spring	8in. ..	Early summer.
Hydrangea	Cuttings	Ripened shoots ..	7in. ..	Summer.
Isoplexis gracilis	Seeds and division	Spring	4in. ..	Orn. foliage.
Jasminum	Cuttings	Autumn and spring	Various	Winter, summer.
Lantana	Cuttings	Spring	7in. ..	Summer.
Mignonette	Seeds	Aug and spring ..	6in. ..	Spring, summer.
Palms	Seeds	When ripe	Various	Orn. foliage.
Pelargonium (Zonal)	Cuttings	Autumn and spring	Various	Winter, summer.
(show, etc.)	Cuttings	Autumn	Various	Spring.
Petunia	Seeds and cuttings	Spring	Various	Summer.
Primula (sibensis, etc.) ..	Seeds	April, June	6-7in. ..	Winter, spring.
(double)	Layers	Midsommer	6-7in. ..	Winter, spring.
Roses	Cuttings, budding	Autumn, summer	Various	Spring-autumn.
Salvias	Seeds	Spring	Various	Summer, winter.
Schizanthus	Seeds	Early spring ..	5-7in. ..	Spring, early sum.
Solanum capsicastrum ..	Seeds	Early spring ..	6in. ..	Autumn, winter (berried).
Stroptocarpus	Seeds	Early spring ..	6-8in. ..	Summer.
Valloia purpurea	Offsets	When large enough	6-8in. ..	Early summer.
Verbena	Division, cuttings	Spring and autumn	Various	Summer.

CORRESPONDENCE

“SURPRISES?”

THE flowering of the New Zealand Flax (*Phormium tenax*) and of the *Dracæna* or *Cordyline* is not confined to the Southern Counties, for there are many plants of both these well known New Zealand natives flowering abundantly at Scarborough and other Northern stations. The wonder is that they are worth mention at all, as each year they flower freely, if not quite so abundantly as this year! By the seaside these should be planted in any public garden where there is room for them to develop. Never in the course of many years have I seen the *Phormium* cut severely, and the *Cordyline* has perhaps been cut down to the ground once in twenty years, so they may be depended upon to vary the vegetation during winter. *Aralia Sieboldi* is another shrub that is often miscalled tender, while it stands cold and wind by the sea as robustly as the Japanese *Euonymus*, the only difference being that the *Euonymus* prefers the open air and sunshine while the *Aralia* prefers being in shade under trees or under a north wall. One of the plants that shows the effects of last year's heat and sunshine is the Cape Agapanthus. In the North this does not flower freely every season. This year I counted twenty-one heads of bloom in various stages on one clump that had been divided and the crowns separated the year before last, a record worth mention. How excessively vigorous the spikes of *Gladiolus primulinus* are this wet season! If they ripen their bulbs sufficiently after this cold and wet season this charming bulb will take its place as one of the indispensables in the hardy border. The hybrids one is tempted to think must be less impervious to wet than the spray-loving *Gladiolus primulinus* (from the Zambesi Falls), but there is always room for a surprise in the behaviour of hybrids. Surprises, whether they be pleasant or unpleasant, are the soul of gardening for pleasure and stimulate to still greater adventures. How dull it would be if there were no difficulties to overcome; there would be no successes to chronicle! The next great surprise that I am looking forward to is the flowering of the Blue *Laburnum* found in Australia. I do not know that it will be hardy in England, but I have seen young plants that are exactly like young seedling plants of the ordinary *Laburnum*, and as far as looks go they should require the same conditions. I only hope that when they flower it will be later in the season, as I do not think the two plants would look well together. As in the case of the Japanese *Wistaria*, it is a pleasure to have a succession of flower, be it early or be it late.—E. H. W.

WHY “AMETHYSTINE”?

WITH reference to “G. J.’s” query on page 418, I have a plant of *Eryngium* the specific name of which is *amethystinum*, but the colour of the whole plant is *steely blue!* In Johnson’s Dictionary the amethyst is described as of a violet colour. I suggest that in nurserymen’s catalogues the epithet “amethystine” has an attractive sound to purchasers, certainly more so than the “reddish purple” which your correspondent considers to be the colour of the amethyst.—M. J. T.

THE LOQUAT FRUITING OUTDOORS.

I AM sending branches of Loquat or Japanese Quince (*Photinia japonica*), bearing ripe fruit. I thought it might interest you to know that the tree from which the branches were taken is laden with ripe fruits. It is growing in the open border

in the gardens of Elfordleigh, Plympton, South Devon. The tree is about 20ft. in height and as much through. It was raised from seed sown about thirty years ago and is quite unprotected by any wall or screen. It has flowered on several occasions, but this is the first time we have gathered any ripe fruit from it.

It very rarely fruits in this country, the blossoming period being so late in the year. It is a very handsome tree or shrub and is well worth growing for its foliage alone. Sufficiently hardy to withstand the cold of an ordinary winter; an unusually severe frost is likely to prove fatal to it. For this reason it is usually given the protection of a wall. It prefers a rather light loamy soil and does not really succeed in very stiff loams.—F. W. RICH, *Plympton, South Devon.*

[The fruits sent were fully ripe and quite pleasant eating. They have a brisk acid flavour which would make them especially welcome in hot weather. They are usually considered more suitable for culinary purposes than for dessert however. A large proportion of the interior of the fruit is taken up by the seeds which, three in number and $\frac{1}{2}$ in. long and wide, remind one, though much smaller, of those of the Horse Chestnut. They have the deep brown of the dried “cobbler,” however, rather than the glossy red-brown of the freshly-opened Horse Chestnut seed. Like so many other edible fruits the Loquat belongs to the great Rose family.—ED.]

DWARF POLYANTHA ROSES.

IN that able and informing article on the above by “White Lady” on page 369 no mention is made of Laxton’s *Crimson Orleans*, a sport from the well known *Rose Pink Orleans*. Probably the writer has not tried *Crimson Orleans*; it is, however, a good thing! The individual flowers are not too closely packed on the spray, a feature that enables the blooms to open freely, while the foliage would appear to be practically immune from attack by mildew. Its colour is fittingly described as brilliant crimson. We have here a dozen plants of it. “White Lady” rightly emphasises the fitness of beds on a lawn for accommodating these “Poly-Poms.” In addition to this position these dwarf *Roses* look well used as a grouping in the front-make-up of a herbaceous border, especially an open corner site. Furthermore, the low trim habit of

the dwarf *Polyanthas* renders them particularly suitable as permanent plants in flagged and other strictly formal gardens. Incidentally, too, where there is much bedding-out to be done annually and labour and other means are none too plentiful,



FRUITS OF THE LOQUAT, *PHOTINIA JAPONICA*.

it spells economy in the long run to include a few beds of these multiflora dwarfs in the bedding scheme because they ask so little attention year after year.—C. T., *Amphill.*

A GRAND PERENNIAL.

LAVATERA OLBIA is one of the most useful and reliable plants for late summer blooming. Here, it usually opens its first flowers about mid-July, from which time a continuous succession is maintained until the late autumn. Individually, the flowers are about as large as those of a good *Hollyhock*, single and of a lively pink, veined with rose. The leaves, bluntly lobed, are a dull green and so thickly covered with fine hairs that the plant is afforded a grey effect. Though *L. Olbia* never sets seed here, it is easily propagated by cuttings, and these grow away so quickly that they will bloom in their first season. *L. Olbia* is a robust and long-lived plant, and one that will thrive in poor, hot soil without any attention



A USEFUL PLANT FOR LATE SUMMER FLOWERING, *LAVATERA OLBIA*.

beyond cutting back to the base every spring. It appears to be perfectly hardy, and is quite indifferent to drought, even in our thin, shaley ground. The specimen illustrated is over ten years old, and as vigorous and floriferous to day as ever it was. It is more than 4ft. in height and fully 6ft. in diameter.—A. T. JONSON, *North Wales*.

THE BRUGMANSIA OUTDOORS.

I SEND you a picture of *Datura* (*Brugmansia*) *Knightsii*, a native of Africa, growing in the open in the "white garden" of the Rookery, Streatham Common. The stems have been pruned at a height of from 5ft. to 7ft. in order to facilitate removal and transport to Battersea, where they are kept under shelter during the winter. The large white trumpet-shaped flowers (double) here attain a length of about 10ins., but at Kew, where the plant is grown under glass and not cut down, the flowers are larger.—H. C. WARD.

THE DOUBLE SUN ROSES.

WHETHER or not we prefer double to single flowers is a question which we would require to consider well before making a general pronouncement regarding it. In the case of the Sun Roses it would be difficult to answer from a purely gardening standpoint. The single flowers are charming indeed, and no lover of the *Helianthemum* would willingly say anything which would appear to be derogatory to their loveliness. But for many places they have the defect of being so fugacious that in bright weather and when the day is blowy the flowers are sometimes past before midday, and in dull weather the little bushes are covered with buds which rarely open on many days in summer. On the other hand, the double varieties retain their petals much longer and are independent of sunshine once they have opened. These, briefly stated, are the main factors which should decide the choice of the one who seeks to add some of these flowers to his or her garden.

But there is another point to be considered, and one which is a strong argument against most of the double varieties in existence. This is that the flower-stalks are not strong enough to support the blooms erect and, in consequence, they hang down in a manner which prevents them from shewing properly except in places above the level of the eye. This has always been the great obstacle in the way of the majority of the existing double varieties of *Helianthemum*. Of these there are many which may be enumerated, although one must promise that the nurserymen appear to name these to suit themselves in many cases. Among those offered are *album plenum*, white; *Double Chocolate*, chocolate brown; *hyssopifolium multiplex*, orange; *Salmon Queen*; and *Serpyllum plenum*, yellow.

The most valuable of all, however, are the double varieties which have originated from the old *H. amabile* or *H. venustum*. The oldest of these is *H. amabile fl. pl.* or *venustum plenum*, which, from being praised by Mrs. C. W. Earle in one of her works—"Pat-Poutin from a Surrey

Garden"—came into considerable prominence and, from want of another name, was called "Mrs. Earle." This, with the varieties derived from it, must be greatly favoured by all who have grown them. They have not the falling of the other double varieties, and hold their flowers well up and are not only floriferous at the same time as the others but give a few flowers long afterwards, sometimes until frost has set in. The first sport of this fine variety, which has rich crimson flowers, was the bright yellow *Jubilee*, raised at Aberdour by the late Mr. P. Hill-Normand. This was followed by a bronze variety called



BRUGMANSIA KNIGHTII FLOWERING OUTDOORS IN LONDON.

Bronze Jubilee, originating in the same garden. Still another double variety has originated with Messrs. Stormonth at Kirkbride, Cumberland. This is *Cumberland Belle*. It gives plants which bear crimson, bronze and yellow flowers on the same bush. All these double Sun Roses are as easy to cultivate in light soil and a sunny place as any others, and by their beauty lend much assistance to the attractions of the rock garden.—S. ARNOTT.

THE GIANT IRIS OCHROLEUCA.

THAT is a very charming illustration in *The Garden*, August 12, page 394, of *Iris ochroleuca*, and I can confirm the reference to it liking damp soil, wherein it often reaches a height of 6ft. I have grown it for many years now and consider it one

of the most attractive Irises for a border. It is a most accommodating plant, too, revelling in the partial shade found under a pergola, where the blossoms unfold gradually and continue longer. At the same time I have been most successful with it on a south border, open to every gleam of sun, and during the early part of July had a larger show of flowers than ever before. Probably the hot summer of 1921 and ripening had a deal to do with the abnormal number of flowering spikes. *I. ochroleuca* differs from some of the flags from the fact that its foliage is slender and sword-like. As is known the blossoms are borne one above the other, earning for it, in some quarters, the not inappropriate name of "Pocket Iris." I counted no fewer than five flowers out simultaneously on several spikes this year.

To me it seems somewhat singular that, although an old Iris, it has never become common, indeed, in many gardens where Irises are grown, *ochroleuca* is not always found. I am glad that the writer of the very interesting article points to the advisability of planting at this season of the year. Those who omit to do so until spring often miss a season of bloom; at any rate, this is true of *I. ochroleuca* so far as my own experience goes.—W. LINDERS LEA.

TROPEOLUM SPECIOSUM.

IS there to be found a more vivid-coloured flowering creeper, when once established and doing well, than *Tropeolum speciosum*, or one about which there has been more disappointment at the unsuccessful attempts at cultivation? I venture to say there is not. The reference to it, as having been raised from seed by H. C. W. (see page 395) in East Surrey, gives one hope that the general experience of failure in southern counties may yet be overcome. It is certainly a capricious plant and difficult to understand. I have seen it thriving in Devonshire in isolated places, but if one wishes to see it in its rich prodigality of emerald green foliage and brilliant vermilion blossoms, one may do so north of the Tweed, for around many a Scottish homestead *Tropeolum speciosum* is to be found in richest garb. It is certainly a moisture loving plant, as one finds it running over limestone rocks where water trickles, and in the Highlands, amid peat bogs. The tantalising part of it is, that you plant your specimens or sow seeds and they grow for a time, in the mortar rubble and loam

you have prepared, and then die off. You wonder then whether the cool environment of Scottish moors does not count for much!—CLAREMONT.

THE MOUNT ETNA LILY.

THIS is a little-known name for what will perhaps be more familiar as *Sternbergia lutea*, a very valuable late autumn Crocus-like flower that—planted in a position to its liking—never fails to produce its golden yellow flowers in abundance in late autumn. Plant in a warm, sheltered position in light sandy soil. The bulbs hate disturbance and, in cold and exposed places, should be given slight protection after the flowers are over until spring. Never touch the bulbs until they become too crowded, then lift immediately flowering is completed, divide and replant.—BULBIST.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Cardoon.—As this plant becomes fit for blanching it will be necessary to remove some of the bottom leaves and to ascertain that the roots are sufficiently moist before carrying out the operation. The remaining leaves must then be drawn closely together and made secure by strong raffia, afterwards placing bands of brown paper and hay bands round the base of the plant, gradually adding to such until the whole of the plant has been dealt with.

Lamb's Lettuce, or Corn Salad as it is frequently called, makes an additional autumn and winter salading. The seed may be sown now in drills similarly to Lettuce, but it is not necessary to thin out so severely. This plant is very hardy as a rule, and will generally continue to throw up a goodly amount of leaves throughout the winter.

Cauliflowers.—To secure good heads of early Cauliflowers next spring it will be necessary to sow seed now, and a further pinch may be added in a fortnight's time. Sow thinly in a warm, well drained spot outside or, as some growers prefer, in boxes. As soon as the plants are large enough prick out, about 4ins. apart, into frames where plenty of air can be given and dampness guarded against. In addition to those in the frames pot a quantity into 4in. pots and place them in a brick pit so that plenty of light and air may reach them. Plants grown in the latter way should make excellent stuff for potting into larger pots early next year to provide the first cutting.

General Work.—Should such be required make further sowings of Prickly Spinach as ground becomes vacant. Examine the rows of late Peas, and if mildew has made its appearance dust the rows with sulphur to help check the fungus. The month of July was so wet that watering should not be required for late Peas. See that late-sown roots are sufficiently thinned in good time. Watch the supply of Lettuce seedlings and, if necessary, sow more seed thinly on a warm border.

The Flower Garden.

Grass Seeds may be sown now and onwards for several weeks or, if preferred, postponed until next spring. If sowing to make a tennis or croquet ground, see that the site is well prepared and the best seed used for the purpose. After getting the surface to a fine and perfectly even finish, scatter the seeds liberally, afterwards raking and rolling them in unless the condition of the soil is such that the latter operation had better be postponed for a few days.

Hardy Annuals.—To provide an early display next season it is a good practice to sow seeds during the present month. Circumstances will probably settle where and how it must be done. It is possible to sow directly into their flowering quarters unless the site is greatly exposed and the soil cold and retentive, in which case the seeds should be sown on a warmer site and the young plants lifted and placed in their permanent positions as early as possible next year. Annuals such as Larkspurs, treated thus, make strong plants and give a splendid display.

Hardy Fuchsias.—These graceful and free-flowering plants are most useful for brightening up beds and borders as the season advances. In favoured localities a plant will soon develop into a large bush, and a few such bushes suitably placed make an excellent lawn group. After flowering, the young growths arising from the base afford a ready means of increase if inserted as cuttings.

The Hardy Fruit Garden.

Planting Fruit Trees.—Should this work be contemplated on a large scale and the site has to be cleared the matter may well receive early attention, so that the plan may be carefully thought out and the different varieties allotted to their respective positions. Having arranged this the order may, with advantage, be placed at an early date in the nurserymen's hands, as this may lessen the possibility of having to accept substitutes.

Fruit Under Glass.

Early Vine Border.—If the Vines in the early house have failed to give satisfaction, the reason, in all probability, is faulty root action. To correct this it may be necessary wholly or partially to remake the border according to conditions ascer-

tained upon inspection. Should there be both an inside and outside border, it will be unwise to interfere with both of them in one season. Deal with the inside one first and encourage as far as possible the making of abundant roots inside, as they are here under control. Having accomplished that it may be found possible after a couple of seasons to do away with the outside border. If this cannot be done without destroying strong roots, try to reduce it as much as possible, for outside borders are more of a handicap than a help in growing early Grapes. The compost required for Grape culture is good fibrous loam to which may be added some crushed bones, wood-ash and rubble. The drainage must be ample and clear, and overlaid with freshly cut turves placed grass downwards.

H. TURNER

(Gardener to the Duke of Northumberland),

Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Cabbages for Spring Cutting.—The ground should now be prepared for the reception of plants from the first sowing. This crop is generally found to do well on ground from which early Potatoes have been cleared. The soil should be fairly rich, but not enough so as to cause soft growth before severe weather sets in. Always aim at having firm, sturdy growth. Where such varieties as Flower of Spring or Harbinger are grown, 18ins. between the rows will be ample, allowing about 12ins. apart in the row.

Vegetable Marrows.—Owing to the erratic season Marrows in the open are much later than usual in swelling their fruits. Liquid manure should be given frequently to assist plants which are bearing heavy crops. Cut the fruits before they attain too large a size and remove all superfluous or decaying foliage.

Onions.—Look over planted-out Onions and bend over the stems to one side so that the bulbs may be induced to swell to their fullest extent and quicken the maturation of the crop.

General Work.—Continuous rains have opposed the use of the Dutch hoe in the destruction of weeds, but every favourable opportunity should now be taken to have the ground hoed and cleaned. All spent crops should also be cleared away, burning all pea and potato banlms.

The Hardy Fruit Garden.

Gathering Fruit.—The principal work in the hardy fruit department at this time is the protecting of crops from the ravages of birds and the harvesting of those which are fit for gathering. Early Apples will require to be looked over frequently, and any that are ripe should be picked and stored for early use.

Raspberries.—Cut out the old fruiting canes immediately the crop is cleared, and thus allow the sun and air to circulate freely among the young canes. The latter should be secured to stakes or trellis if there is any likelihood of them being damaged by wind.

Strawberries.—Lift the remainder of the runners required for spring planting and heel firmly into lines in the nursery border, afterwards cleaning between the rows of the old plantation. A good dressing of short litter may then be given for pointing in at a later date.

The Fruit Room.—Take the opportunity during inclement weather to have this structure thoroughly cleaned so that it will be ready for the reception of the various fruits that require storing. Wash down the shelves and linewash the walls. So long as the shelves are clean nothing else is required on which to lay the fruit.

The Flower Garden.

Trimming Hedges.—The various types of hedges bordering the flower garden may now receive their final trim of the season. Opinions differ regarding the shape to which hedges ought to be trimmed. Personally, I think the wedge-shaped top is the neatest, and is less liable to sustain damage from heavy falls of snow than the broad-topped form. Young hedges should be cut well down so that close growth may result.

Propagating Bedding Plants.—Time must now be found for carrying out this important work, as every day brings the danger of severe

frosts nearer. Violas, Pansies, Calceolarias, Pentstemons, Antirrhinums, Nepeta and any other bedding plants amenable to cold frame treatment should now be got in. Lavender will also root readily at this time.

JAMES McGRAY.

(Gardener to Sir Henry H. Hoildsworth, Bart.),
Coodham, Kilmarnock.

GREENHOUSE AND CONSERVATORY.

Achimenes as they pass out of flower should be stood in cold frames, gradually withholding water as the foliage dies down. The frame lights should be kept on to keep the plants dry. When the stems have dried up the plants should be turned out of their pots and the rhizomes stored in dry sand for the winter. Small tins are very suitable for this purpose, but it is advisable to punch a few holes in them as this allows any superfluous moisture to escape.

Veltheimia viridifolia and *V. glauca* are natives of South Africa, and deserve to be more generally cultivated for the cool greenhouse. They are not very showy plants, but have a quaint charm that appeals to many plant lovers who are fond of interesting plants. In common with so many South African bulbous plants, their growing season is during our winter, and dry roots should be potted up at this time. Plants that have been resting in cold frames are now showing signs of growth, and should be shaken out and repotted, cleaning away all dead roots and decaying matter from the base of the bulbs. These plants grow well in any good potting compost, using 5in. or 6in. pots, according to the size of the bulbs. After repotting they may be stood in a cold frame or cool greenhouse, giving them very little water until they have made some growth and a quantity of new roots. The repotting of bulbous and tuberous-rooted plants is usually the most critical stage, as more plants of this class are ruined at this time through over-watering than by any other cause. As there is not any root action, an overdose of water renders the soil sour and stagnant, and the fleshy roots of most bulbous plants refuse to grow in such a medium.

Nerines require attention at this time. Some of them, such as *N. Fothergillii* major, should now begin to throw up their flower-spikes and soon afterwards signs of fresh growth. They usually flower best when the pots are crowded with bulbs, and repotting should only be done at an interval of several years. Some cultivators believe in repotting the plants after they have finished flowering, while others prefer to repot before they flower and start into growth. If they are simply to be shifted into a larger pot without disturbing the roots, repotting may very well be done when they have finished flowering. If the plants have to be divided or have to be repotted through being in bad condition at the root, I prefer to repot them before they start into growth, as it gives opportunity to clean off all dead roots and decaying matter at the base of the bulbs. If dry bulbs are purchased, they, of course, are best potted at this time. Nerines require a rich compost, as they are not frequently repotted. A good rich mellow loam should be used to which a little leaf-soil and some dried cow dung has been added, also a 6in. potful of fine bone-meal to every bushel of soil. Bone-meal is very beneficial on account of its lasting properties, and is the best manure to use in the potting compost. Enough coarse clean sand or old mortar rubble should be added to render the whole porous. *N. Fothergillii* major has large bulbs, and when doing well makes fine specimens, thus when repotting five or six bulbs may be put in a 7in. pot. The smaller varieties may be potted singly into 60-sized pots, or three or four in 48-sized pots. After potting they may be stood in a cold frame or on a shelf in a cool greenhouse, giving water very sparingly until they have made plenty of new roots. Grow quite cool, with full exposure to sun and air at all times.

Calceolarias should now be in 60-sized pots and placed close to the glass, so as to obtain a dwarf habit. A temperature of 45° to 55° will suit these plants admirably. Pot on the plants as it becomes necessary.

Anemones.—The roots of the tuberous varieties may be potted up from now until the end of the year, so as to ensure a succession of flowers. As pot plants these Anemones are ideal, not only on account of their flowers, but also for their distinctive foliage. Attention is essential as regards watering.

Royal Botanic Gardens, Kew.

J. COULTS.

PLANTS FOR A SMALL MORaine GARDEN

(continued from page 401.)

INULA ACAULIS.—An interesting "Fleabane," with large yellow flowers thrown out very little above the ground level. Might be useful as a later flowering plant.

Sedum luxifolium.—A useful evergreen shrub about 6 ins. high, with whitish flowers in the early summer, which is placed in a central position on one of the sections.

Laurentia tenella has tiny bright green rosettes, from which arise, on short stems, pretty, delicate, obelia-like whitish flowers. This plant has come through four winters in an exposed position, but is not increasing, and it is possible that a specially bad winter may finish it off; it would probably be more at home in a damper position, but away from the moraine there would be the great risk of it being overgrown by more vigorous plants.

The **Lewisia**s are a great acquisition and mostly have lovely flowers and rosettes; it is perhaps unfortunate that they come into flower at the same time as many of the Aizoön Saxifragæ. Four species were planted in 1918; of these, **Lewisia Cotyledon** with its large leathery-leaved rosettes and lovely buff flowers with deeper rose suffused markings along the centre of each petal, and **L. Howelli** with its large deep green crinkled edged rosettes and pale apricot coloured clusters of flowers with rosy flushed stripe the lengthway of the petals, are the only plants that have flowered with me up to the present; both have flowered annually during May, providing large clusters of flowers each year, but they have failed to open seed and have shown no sign of throwing out further rosettes. **Lewisia Leeana** and **L. oppositifolia**, the other two species as yet have not flowered, nor shew any signs of increasing, although both appear to be quite healthy.

The **Micromeria** family provide one or two dwarf, sweetly scented "shrubbets," very suitable, especially, for the outer edges or crevices, the two best that I have tried being **M. corsica**, with deep green scented foliage on stiff, wiry stems, thrown out horizontally about 3 ins. high; from these pretty rose coloured flowers spring up in the late summer. One plant, unfortunately, has attracted the attentions of the "cat" family, which in the spring seems to lay on it, to the detriment both of the **Micromeria** and some adjacent plants, one of which happened to be the interesting very dwarf, silvery-leaved **Raoulia australis**. When it is noticed that the plant is being visited now, a few pieces of broken glass are placed about the plant for a day or two to discourage the unwelcome visitors. Another good species is a golden-leaved one which was noticed in the Edinburgh Botanic Gardens under the name of **Micromeria varia**. It was sent me originally as **Thymus "Golden Dwarf"**; it is specially good for a crevice on the outer edge, making a compact and dwarf delicately scented bush. All this family are easily propagated from shippings.

Oxalis enneaphylla and **O. e. rosea**, pretty both in foliage and flower, usually flower well and are much more compact on moraine than in richer conditions, which induce longer and weaker stems in place of the almost stemless flowers produced on moraine. This plant never seems to ripen its seed. **O. adenophylla** is another lovely plant which, on moraine, produces large almost stemless flowers in clusters, but the bulbous root seems to have a tendency to rot off after flowering. In shade and richer soil the pretty grey foliage and rosy flowers are much less

compact, but it flowers well and the flowers last much longer. The flowers in the more exposed positions are over very quickly in the hot and dry sunny weather that usually happens at the period it is in flower. Sun is requisite for the flowers to open out. The root of **O. adenophylla** is very different to the "corms" of **O. enneaphylla**, being more like that of a Cyclamen. I discovered this when trying to get some out for a friend, and also that it had worked its way down a good depth below the ground level.

Pentstemon cristatus, a fine dwarf, prostrate shrubby plant with its dark evergreen foliage and quite pleasing purplish blue flowers, as is also **P. Davidsoni**, which is more prostrate, if anything, with pretty grey green leaves and lovely red flowers. These are perhaps more suitable for a dwarf wall, but are certainly worthy of a choice position.

Phyteuma comosum.—This is the only **Phyteuma** that has been tried. It was planted in 1916. The dark green campanula-like leaves on the plant which never shewed any sign of increase or flower made me doubtful as to whether it was the correct plant. However, this summer, probably due to last year's "scorching," having put new life into it, resulted in it producing this last June its interesting quaint blue clustered heads of bottle-shaped (Schweppe's soda water contracted to a pint) flowers.

Potentilla nitida.—This, the best of the species with silvery grey leaves and fairly compact mats, would be indispensable, with its extremely pretty rosy pink flowers, if it would only produce the flowers more freely. It has been tried on and off the moraine, in good and very poor soil, but with little success so far as flowering goes, the plants never bearing more than three or four flowers. The white-flowered variety seems, however, to flower more freely but is not so beautiful as the type.

Saponaria caespitosa is the loveliest of an interesting family that has several suitable varieties. It is quite dwarf and fairly compact with its somewhat fleshy, narrow-pointed leaves and lovely good-sized rosy pink flowers. The fleshy leaves, unfortunately, are an irresistible attraction to the slug family, and only persistent watching, especially in the winter, can save the plant when slugs are about. Owing to this one or two of the plants have been covered with glass during the past winter, which kept the leaves dry, and the slugs certainly did not seem to trouble them so much. **Saponaria Boissieri** is a more compact plant with good-sized flowers of a paler pink. **S. Wienmanniana**, a hybrid raised by Sundermann, seems to be more compact than the last with very similar flowers more freely produced. **S. Sundermannii**, compact, but somewhat larger, with white flowers that seem to go pink, has longer stems than the above and not nearly so freely produced. The plant that I have under the name of **S. pedumiana** is very unlike the other **Saponarias** (and possibly may not be correct). It has bright grassy green tufted foliage fairly compact, from which are produced pretty alpestris-like (not scalloped) white flowers on 4 in. to 6 in. stems. **S. Wilkommiana** is more in the way of a compact **S. ocymoides**. It always produces quite a lot of clustered pendulous flower-heads, but they have always failed to open out, and it is difficult to understand the reason. I thought that they might be aborted by frost, but this year, when so far as I know there was no night frost about at the time, they have just acted the same way.

Among the **Sedums** two striking species from the Caucasus add to the interest and are quite suitable. Although biennial, they are easily raised from seed and well worth a little trouble. Both species, **S. pilosum** and **S. sempervivoides**, have sempervivum-like rosettes, the former having bright green hairy rosettes which are covered with pretty pink flowers in early June. **S. sempervivoides** has glaucous green, stiff, almost echeveria-like reddish tinged rosettes which grow up in the Sempervivum manner before opening out their dazzling scarlet flowers.

T. ASHTON LOFTHOUSE.

Seasonable Work Among Chrysanthemums

To obtain a full harvest of blossom the plants will need daily, almost hourly, attention in the case of those grown specially for large blooms.

THE buds are now swelling up freely on plants of very fair strength, clean and free from mildew. They are, altogether, very interesting objects to the enthusiast. The beginner may think it is a very simple matter to place plants under glass; it is much easier to do so in these days of comparatively dwarf plants to what it was when they often attained a height of 6 ft. and more.

But that is not my main point. It is rather that of placing plants in houses so that the blooms will be at their best just when required—late, medium and early-flowering sorts. When the cap is broken and the colour of the petals can be seen, moisture must not reach them. It would be a mistake to leave them out after this stage. The best structure is a cool one, dry and facing north, preferably, for the earliest varieties, including the singles.

Then there are a few that need a long time to develop their flowers, such as Mrs. R. C. Pulling, Victory, Majestic and Louisa Pickett. The latter, I think, requires eight weeks from the date of housing if the buds are then the size of a farthing, the others seven weeks; the medium early ones six weeks and the naturally early varieties a month to five weeks from the time that the colour of the petals can be seen.

TREATMENT UNDER GLASS.

Avoid overcrowding; have the buds, if convenient, about 4 ft. from the roof-glass; leave open, for several days, doors and ventilators. Fumigate several times to kill green and black aphides before the pests get among the unfolding flower petals. Do not sprinkle tobacco powder on any unfolding buds, else, in time, the powder may absorb moisture at the base of the petals and thus rot the whole bloom. Use dry sulphur freely if mildew covers the leaves.

As the flowers unfold lessen the ventilation considerably; continue to feed, but with weaker doses each week. Put a shade on the roof-glass, and allow the blooms to develop in a quite cool, dry structure. Do not use any nitrate of soda nor sulphate of ammonia; there will be sufficient stimulant in prepared artificials.

Examine the buds for earwigs every night, and for caterpillars and leaf-rolling grubs during the daytime, the latter pests are numerous this year.

Specimen plants should be placed by themselves to enable them to retain their leaves whole and green. Turn round such plants two or three times in a week towards the best light.

Decorative stock must be freely fed, disbudded and staked. Provide retarding shelters against north walls or fences. G.

SHREWSBURY FLORAL FETE

OF the good things seen at Shrewsbury recently, Roses, Sweet Peas and Carnations stood out among the flowers, and the herbaceous plants were well worth a visit to see for those making a garden, while the endless variety of fruits in season was superb.

Roses were shown more extensively than any other flower, and it would be a big task to chronicle the whole of the exhibits. Those from Messrs. Gunn, Olton, however, won the champion competitive prize with a very remarkable lot arranged in tall pillars 12ft. to 15ft. high. Other fine lots came from Messrs. Mattock, Oxtord and Dunton, Wolverhampton; while non-competitive exhibits of Messrs. Dobbie, Edinburgh; King's Acre Nurseries, Hereford; and Messrs. Alex. Dickson and Co. stood out among many others.

Unlike the London shows, the prize money offered induces many private gardeners to come forward, and the decorated fruit tables were a sight to enthuse over. Mr. James Vert, gardener to Lord Howard de Walden, secured first prize for a table resplendent with such good things as Peach Peregrine, Nectarines (of which Pine Apple was the best), Apricot Moor Park, Plum Transparent, Melons and several varieties of Grapes. The second prize went to Sir John Leigh's gardener, whose exhibit was but a few points behind the winner of the first prize. Winners in the Grape classes were Mr. R. J. Corbett, Messrs. Webber and Sons (Minehead) and Lieutenant-Colonel Leigh (gardener, Mr. A. J. Cook).

Among non-competitive exhibits of fruit a large group by The King's Acre Nurseries, Limited, was remarkable. Apple Herring's Pippin was very conspicuous. James Grieve, as ever, was one of the best Apples. Pears Beurre Supertin, Margaret Marrilat and Doyenné du Comice were all well shown, as were Nectarines, Peaches and Plums. A gold medal was the well merited award.

The Worcesterberry, a hybrid fruit of interest, and some good dishes of Apples were shown by Mr. E. J. Parsons of Worcester.

Vegetables from the Hon. Vicary Gibbs (gardener, Mr. E. Beckett) included Peas such as Quite Content, Tomato Peachblow (a rosy red), Potato Drummond Castle and Runner Bean Prizewinner. Gold medals to groups such as these and those of Messrs. Sutton and Sons, Dickson and Robinson are fitting comments on their quality and style of arrangement.

Carnations were well shown by Messrs. C. Euglemann (who secured the challenge cup), C. Wall, Jones and Son, and Stuart Low and Co. Gold medals were awarded to these groups.

Sweet Peas, as might be expected, were very fine. Most of the best came from trade exhibitors, of which Messrs. Alex. Dickson, Newtownards; Herd Brothers, Penrith; R. Bolton, Halstead (who secured gold medals); and J. King and Sons, Coggeshall. The varieties are legion, but Picture was one of the best in pale rose colour.

Messrs. James Cypher and Sons, Cheltenham, staged a large group of plants. Here were *Statice profusa*, Orchids, *Ixoras*, *Crotons*, *Dracenas*, *Francoa ramosa* and such plants. This group was backed with stately Palms.

Little behind and similar groups came from Sir G. Kenerick and Mr. W. R. Manning.

The hardy flowers from Messrs. G. Gibson, Leeming Bar, were particularly gorgeous, but in this class Messrs. Maurice Prichard, Christchurch, were first and Messrs. Harkness, Bedale,

second. *Delphiniums*, *Lupinus*, *Phloxes* and *Antirrhinums* were the principal plants shown.

The only *Violas* and *Dahlias* in the Show came from Mr. H. Clarke of Taunton. Dainty rock garden plants came from Messrs. Bowell and Skarratt, who also had some *Nymphæas*.

Astilbe Grimo, a deep rosy pink with thick, heavy spikes, was noticeable in the group of Messrs. Bakers, Wolverhampton, and *Romneya Coulteri* in the Chalk Hill Nurseries' collection.

Phloxes all the way from Hawick, Scotland, were shown by Mr. John Forbes.

In an important class for rock gardens of 500 sq. ft. a fine display by Mr. T. R. Hayes, Keswick, secured Lord Howard de Walden's Challenge Cup and £50; Mr. P. Gardener, Ilkley, winning the second prize of £30, and Messrs. Broadhead and Son, Thongsbridge, the third of £20.

Rare plants were less in evidence this year, but a choice lot of Orchids came from Messrs. Sander and Sons and Stuart Low and Co., gold medals being awarded to both groups.

PLANTS FOR WINTER SALADING

LIKE most things grown in a garden, it is necessary, in the case of salads, to have them just when required, to look ahead and make provision accordingly. Practically all the real growth of each plant is finished by the end of autumn, the only continued growth being that of a few kinds assisted by the aid of fire heat.

ENDIVE AND LETTUCE.—There are two distinct varieties of the former, broad-leaved Batavian and the moss-curl'd. The first named is favoured for winter use because it resists excessive moisture better than the other and it is also large, free-growing and excellent when nicely blanched. Strong seedlings should be planted out 9ins. apart each way, at this season, in a fairly rich, deeply dug soil, in as dry a part of the garden as possible. Sturdily grown plants will resist frosts very well; the blanching may be done in frames or houses, but I prefer to blanch them where growing by placing two roughly made frames on them, moving the frames so as to ensure a succession of tender hearts. Tying up the plants and then covering with empty, inverted flower pots will also answer our purpose.

Cultivators may have their favourite winter Lettuce; I recommend All the Year Round as the best for the purpose. In the South, and on dry borders in the Midlands and North Midlands, the plants will do well outside even when severe frosts occur. But where it is convenient make use of a frame, too, it does not matter how roughly constructed the frame is as long as it affords protection in time of frost or heavy rain. Where soils are of a heavy, retentive nature, I find it answers well to place glass lights on 6in. pots inverted. The sides and ends being open, the air passing under prevents damping.

In the northern counties seeds should be sown before the middle of August, but in the South the first week in September will be soon enough. If raised too early the plants are liable to "bolt" prematurely. A rich, firm soil, steady growth without any codling are the essentials to success.

THE TOMATO.—Only where plenty of fire-heat is available and suitable houses is it advisable to attempt to grow Tomatoes throughout the winter months. If it is decided to grow them, they should be raised so that, strong and short jointed, they will be ready for planting out, or better still, for final potting into 10in. pots by the second week in October. The treatment is similar to that for

summer grown plants, except that more space must be allowed between the plants and a somewhat drier atmosphere maintained. Grow only special winter fruiting sorts. In this structure an odd Cucumber plant may be grown and plenty of Mustard and Cress; the forcing of Rhubarb and the blanching of Chicory and Dandelion will be, too, an easy matter and tend to economy.

CHICORY OR CHRISTMAS SALAD may be blanched in a cellar, shed or unheated glass structure. The points to observe are strong crowns (strong roots), packing close together in fine soil, avoidance of stagnant moisture and absolute darkness.

SALAD ONIONS AND RADISHES.—Make a sowing of Salad Onions at once, also one of Radishes at the same time. The third week in September sow more Radishes and afterwards sow in January and February in a suitable house or a cold frame. Sow the Radish seed broadcast and thinly, the French Breakfast being the best. Do not thin out the Onion plants except as they are used.

SPINACH BEET will be useful. Plants from July and August sowings will yield nice succulent leaves for a long period; the plants should be 16ins. apart.

CELERY.—Reserve the latest raised plants for use in the winter salads. The necessary attention needed will be that to ensure good blanching and freedom from damp.

BEET must be lifted and carefully stored in sand in a cool, dry position before frosts come. G. G.

Erica stricta as a Hedge.—For an ornamental hedge there are few finer plants than the Corsican Heath (*E. stricta*), which will attain a height of 4ft. to 5ft. in good loam. The stiff, wiry branches, thickly furnished with leaves of a very pleasing shade of green, maintain a neat, upright habit, so that very little pruning is needed to keep the hedge within bounds. Indeed, a well grown line of this Heath is always orderly without being formal. *E. stricta* flowers in late summer, the shell pink blossoms appearing on the tips of the shoots, and it continues in bloom until nearly the end of the year when the faded flowers assume a warm, foxy red tint which is highly attractive throughout winter. Any good lime-free loam will suit this species. It is rather impatient of drought, but generally of quite easy culture. The best time to plant is late April or May.

The British Pteridological Society.—The twenty-seventh annual meeting of this Society was held on August 14, at Llanberis. Members attended from Co. Dublin, Manchester, Reading, Horsham, Woodford and Brondesbury. The President (Mr. W. B. Cranfield) presided, and nine certificates were awarded to meritorious varieties. A long discussion took place on the question of the altered nomenclature of Ferns as part of the general revision of this subject at the Vienna Conference. Some doubt was expressed whether the settlement as presented by Dr. G. C. Druce in the December Gazette would be a stable one, and eventually it was resolved that a Sub-Committee, consisting of the President and Dr. F. W. Stansfield, be appointed to confer with the Royal Horticultural Society and the Kew authorities in order that the Society should come into line with the leading scientific bodies on the question. Among the new members who joined the Society during the past year was the eminent French botanist, Prince Roland Bonaparte. The Society cordially invites all lovers of British Ferns to join. Particulars of membership and copies of the Gazette can be obtained from the Hon. Secretary, Mr. C. Henwood, 21, Clifton Road, London, W.9.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS. 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.2. 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.

FLOWER GARDEN.

GLADIOLI NOT FLOWERING (C. M.).—The latter part of May is rather late for planting Gladioli and this may explain the lack of flowers, though it is quite possible that flower spikes will appear a little later in the season than would have been the case had the corms been planted in March or early April. Our correspondent does not say what price was paid for the Gladioli. If they were very cheap—and a large number of cheap corms were on offer last spring—these could scarcely be expected to include a big proportion of flowering size. With bulbs, as with seeds, it is false economy to purchase at low prices. As the corms appear to have been properly planted and have been well looked after, they should flower next year if they are lifted, when the foliage has ripened, and stored in a frost-proof shed.

LAVATERA OLBIA (G. T. W., Yorkshire).—The easiest method of propagation is by seeds sown in gentle heat in the spring. Although *Lavatera Olbia* is a perennial, it is usually more satisfactory when grown as a biennial; that is, seeds should be sown each year and the plants discarded after they have flowered. *Lavatera rosea* is not a "good" name. *Lavatera trimestris rosea* is an annual which may easily be raised from seed, but care must be exercised in transplanting. We are not acquainted with a perennial form.

ROSE GARDEN.

DWARF POLYANTHA ROSES ("Pompon").—The variety *Baby Tausendschön* should meet our correspondent's requirements, being identical in colour with *Maman Turbat*, but less robust, yet very free flowering. The dwarf *Polyantha* or *Pompon* Roses may be hard pruned in spring with excellent results. *Coral Cluster* and *Phyllis* are also free-flowering pink Pompon Roses deserving of attention.

ROSE MARECHAL NIEL (N., Lyndhurst).—The hot weather of May and early June is responsible for the ripening of the new growths and the quick flowering of the plant. Obviously, as the young wood is producing flowers now, it must interfere with the blooming next spring. Probably when these are cut more young shoots may push up if the autumn weather is warm and otherwise favourable.

ROSES ATTACKED (J. S. C., Hants).—The best spray for the Roses will be Bordeaux mixture applied at intervals from May onwards. Liver of sulphur and other washes usually used are impotent against black spot of Roses. The *Cineraria* leaves may be sprayed with a nicotine wash.

ROSE CUTTINGS ("Crauford").—If the proper shoots are selected and rooted, these will become Rose bushes of precisely the same variety as their parents and will not revert to a Briar, *Manetti*, *rugosa*, *laxa*, or whatever stock was used for the original Rose bushes. It often happens with budded Roses, both standard and dwarfs, that there are on the stock dormant buds too small to be readily seen at the time they are "worked," and consequently they are not removed. In the course of time these tiny dormant buds develop, and if not detected and cut off grow away and dominate the scion. Such growths if made into cuttings and rooted would naturally be independent bushes of the stock, which, with dwarf Roses, is usually *Rosa Manetti*.

GREENHOUSE.

CRASSULA FOR IDENTIFICATION ("Maive Poppy").—The plant sent is *Crassula tetragona*, a South African plant that requires cool greenhouse treatment, a sandy soil, a moderate supply of water in summer and not much moisture in winter, but the soil should never be dust dry.

FRUIT GARDEN.

CRAB APPLE, APPLE AND PEAR TREES (J. E. A., E. Yorks.).—In different parts of the country the stems of fruit trees have split, bark deep, more or less this year owing to the dry weather experienced last year and the sudden swelling of the trunks this year; there is no need for alarm, as nature will right matters in due course. We suggest that our correspondent fastens Bamboo canes to the wires and trains the branches of the Apple tree to the canes. It seems a pity to disturb the roots again so soon unless growth is very strong. Evidently the bush Apple, planted three years ago, is growing in a very unsuitable soil and would be all the better for lifting and re-planting in a drier and richer medium. Canker causes the malformation and, in time, the death of branches. It would be necessary to see affected portions of the latter to determine whether it was canker or not. Surface mulch all the fruit trees immediately after replanting.

TREES AND SHRUBS.

PYRACANTHA COCCINEA AS A HEDGE (A. D. N., Glos.).—*Pyracantha coccinea* (syn. *Crataegus Pyracantha*) could well be used for the hedge, but unless the wire fence is already in position, this support is unnecessary, as when grown naturally this plant becomes a fairly dense bush. With the variety *Lalandei* it is often planted against a wall, but both are excellent shrubs for ordinary positions. To make a hedge fairly quickly the shrubs should be planted about 3ft. apart, but the exact distance must be governed by the size of the shrubs and the time that can be allowed for their growth.

PLANTING AND PRUNING A BEECH HEDGE (E. E. B., Surrey).—Being a deciduous plant, Beech may be planted at any time from November to the middle of March when the ground is in a suitable condition, November being the best time. Just the trimming of the young twigs with shears may be done at any time during the summer when required. Hard pruning should be done at the end of March. The Japanese *Wistaria* may be obtained from Messrs. Wallace, The Old Nurseries, Tisbury Wells, or Messrs. Gaultlett and Co., Limited, Japanese Nurseries, Chiddingfold, Surrey.

MISCELLANEOUS.

NON-POISONOUS FUMIGANT FOR THE GREENHOUSE ("Maive Poppy").—XL All Nicotine Fumigating Shreds is a perfectly safe fumigant to use and non-poisonous. The smell disappears within twelve hours if the house is freely ventilated the morning following fumigation. This fumigant is supplied by Mr. G. H. Richards, 234, Borough High Street, London, S.E.1.

BEES KILLED (G. K., Reading).—The nectar from the lime probably intoxicates the bees, which are then caught and eviscerated by tits, or possibly mice, if the mutilation occurs on the ground.

MANURING TENNIS LAWN (C. S. H., Febridge).—The soot and fine earth would answer very well, but the lime must not be applied at the same time. A peck of soot and two of lime per square rod applied, the former at the end of September and the latter in November, would be a right proportion to use with one barrow-load of fine soil per square rod. If rotten stable manure is procurable and it is rendered rather fine, apply this early in November, one barrow-load per square rod, and brush it in during the winter months. Next Spring, about April, put on 4ozs. per square yard of fine bone-meal and roll the lawn afterwards; next summer the latter ought to be in a very satisfactory condition.

MELONS UNSATISFACTORY (W. M.).—The seeds are not faulty. There may be evilworm in the roots; this worm is very tiny, but does a lot of harm to Melons and Cucumbers. Melons in frames should be grown on a hot-bed made up of sweet litter in March and the plants

should be strong and ready to plant out in April. The bed must be firm. The rooting medium should be loam of a heavy nature rather than of a light, without any manure added to it and, while in a medium dry state, made firm for the plants. Top-dress and feed when the fruits are swelling, but keep the soil near the stems as dry as possible. Plant the Melons on slight ridges of soil, not on the flat, for extra warmth. The frequent light surface mulches keeps roots active and the plants strong and healthy. Ventilate freely in fine weather do not syringe in dull.

NAMES OF PLANTS.—E. B.—*Quercus Ilex*, Holm Oak.—E. E. B.—*Alyssum argenteum*,—"Torquay."—*Potentilla fruticosa*.—H. J. B., Barnwood.—*Catalpa bignonioides*.—G. H. S.—*Thuya plicata*.

CATALOGUES RECEIVED.

Mr. T. Smith, Daisy Hill Nursery, Newry.—Hardy Bulbs, Messrs. Dobbie and Co., Edinburgh.—Bulbs, Roses and Sweet Peas.

Mr. E. P. Smith, The Rosery, Boston, Lincs.—Roses. Also booklet on "The Amateur's Garden Collection of Roses."

Wm. Cutbush and Son, Barnet, Herts.—Bulbs, Fruit Trees and Roses.

Edward Webb and Sons (Stourbridge), Limited, The Royal Seed Establishment, Wordsley, Stourbridge.—Bulbs.

James Carter and Co., Raynes Park, London, S.W.20.—Bulbs and Lawn Seeds.

Messrs. R. H. Bath, Limited, The Floral Farms, Wisbech.—Bulbs, Roses, Peonies, Carnations and Fruit Trees

Vines and Peaches in the Same House.—

Although it is not advisable to plant Vines and Peaches in the same house, where there is ample accommodation for them in separate structures, it is a fact that they are grown together in hundreds of gardens. Cultivators, who have had no experience with the two kinds of fruits when associated as referred to, will find it a difficult matter to give them correct treatment. The greatest difficulty is encountered in the spring and early part of the summer before the time comes when air in abundance can be admitted. The Peach is regarded as the hardier of the two, and so some cultivators refrain from ventilating as freely as they should do during the autumn, as they fear they may do harm to the Vines. Even where Grapes are still on the Vines very free ventilation may be given while the air is dry outside, and in the evening more air should be admitted to play directly on the Peaches than on the Vines. In cold, damp weather admit air also, but in less quantity, and have the pipes nicely warmed at night. The result will be to create a buoyant atmosphere, which will be conducive to the well-being of the Grapes while not exciting the buds of the Peaches. Both the Vines and the Peach trees must have sufficient water. Their roots must at no time suffer through lack of water, and it is equally necessary to avoid having the soil in a sodden condition. When the Grapes are cut, the Vines, as well as the Peaches, will be benefited by exposure to quite cool treatment—thus giving them a complete rest.

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Vol. LXXXVI.—No. 2651.

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PLANTS FOR ADORNING WALLS

IN no branch of gardening is there displayed so general a paucity of originality as in the adornment with vegetation of the walls of houses and other buildings. The country home must be very old and very beautiful if it will not fit better into the landscape with some clothing of vegetation for the walls. On the other hand, a house must indeed be an epitome of ugliness if it looks better entirely smothered in Irish Ivy or, indeed, in "Creepers" of any description. Irish Ivy is an exceedingly useful, if much abused, plant, but it is emphatically an unsuitable covering for any building with any beauty either of workmanship or material. Even where Ivy seems to be called for, there are many more beautiful species and varieties than the Irish, though for screening ugly fences and such like it has the supreme advantage of rapid growth. In the two pictures on the following page there is depicted the shelter on the bowling green at Gravetye Manor, a simple structure made beautiful by its covering of the large-leaved Ivy, *Hedera colchica* (*Rœgneriana*), of which the seemingly varnished, deep green cordate leaves are very handsome. Even our small-leaved English Ivy, which often plays such havoc among growing timber, is intrinsically more beautiful than the Irish. The golden Ivies are not, on the whole, so satisfactory as the silver variegated ones, which latter are often wonderfully effective on buildings of red brick. It is really no more difficult to keep Ivy in its place on a building than any other self-clinging plant, and very little more difficult than plants which provide no support themselves—though these latter, because they obviously need constant training, tend to prevent neglect. Ivy should never be planted against or allowed to encroach upon old buildings in which the mortar has perished, otherwise it is but too likely to force its way between the stones and, as its stems expand, destroy the fabric.

The following are desirable Ivies, but it is usually better to select

sorts at the nursery, taking due heed of what the nurseryman has to say as to habit, etc., since the nomenclature of Ivies in commerce is particularly muddled. Of green forms *deltoides*, *ovata* (very distinct oval foliage), *pedata* and *sagittifolia*, the above all varieties of the English Ivy, and *H. canariensis*, larger leaved and handsomer than the Irish Ivy, are all worthy; while good silver variegated sorts are *Cavendishii* and *albo marginata*.

Next to Irish Ivy the most commonly used

wall plant is almost certainly the self-clinging Virginia Creeper, *Vitis inconstans*, generally listed by nurserymen and named by gardeners as *Ampelopsis Veitchii*. This is an effective plant enough and really beautiful when "lit by autumn fires," but is even faster growing than the Ivy and is almost as effectual in concealing the texture and detail of a building, so that it should be planted circumspectly and subjected to constant supervision. It must always be borne in mind

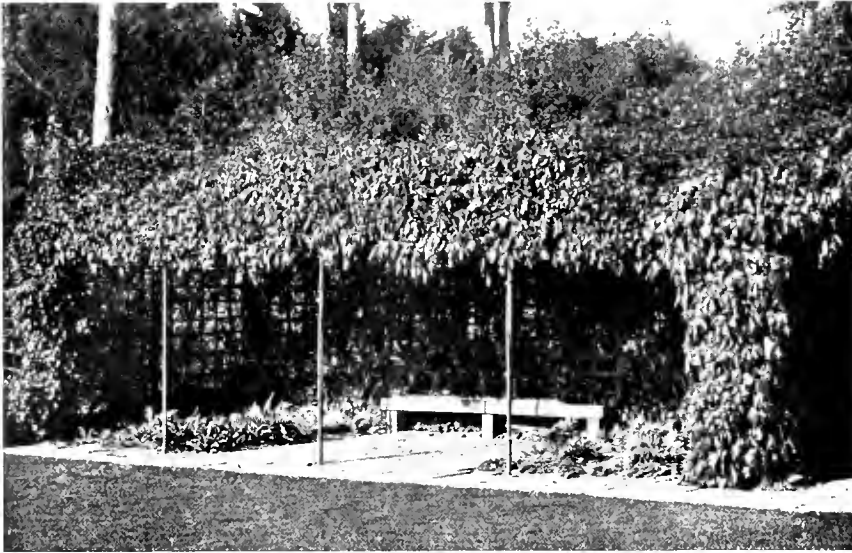
that this fast-growing plant is very apt to die completely away from no obvious cause, and that the bunches of "suckers" adhere so firmly to the fabric that it is impossible to remove them. On buildings with offensively glazed "facing-brick" fronts this peculiarity may be an advantage, but it is grievous on beautiful stonework.

The larger-leaved Virginia Creepers, though needing periodical attention, are really far more suitable for house walls, since their thinner habit of growth not only prevents their entirely obscuring the wall, but allows the beauty of their foliage to be better appreciated. *Vitis quinquefolia*, the true Virginia Creeper, is provided with suckers by which to attach itself to the object upon which it is climbing, and is, on that account, desirable; but it is not easy to procure true, the plant usually supplied under this name being *V. vitacea*, which is not self-supporting on a wall, but has larger leaves, brighter in colour both when in growth and when, in autumn they turn crimson before the fall. *Vitis heterophylla* is excellent against a south wall, especially if it has a rather restricted root-run, as its porcelain-blue berries are then very freely produced.

Of climbing trees suitable for house fronts, surely there is none more beautiful than the *Wistarias*, which, beautiful in flower and light and pleasing in foliage, are not so dense in habit as altogether to conceal the texture of the wall veil behind. It is not possible to deal adequately with the beautiful



THE BEAUTIFUL *CEANOTHUS THYRSIFLORUS* VAR. *GRISEUS*.



THE LARGE-LEAVED IVY, *HEDERA COLCHICA*, ON A SHELTER AT GRAVETYE.



A CLOSER VIEW, SHOWING THE BEAUTY OF THE FOLIAGE.

plants in a general article such as this. The Editor hopes, however, to include an article on this family in an early issue. It should be pointed out that it is by no means easy to train *Wistarias* without the use of straining wires, as the natural habit of the plant is to twine itself around the stems of other trees.

Clematises are deservedly popular for house walls, though even here a greater variety is available than is commonly employed. *C. montana* and *C. montana grandiflora* are quite commonly met with. Both need careful training and pruning if they are not to get entirely out of hand. Some old wood should be cut to near the base each year if it is desired to furnish with them the base of the wall, otherwise they quickly become leggy. *C. montana rubens* is a delightful flesh pink form equally as vigorous as the two white sorts mentioned, and with handsome purplish young wood and foliage. It is particularly pleasing against a stone wall. There is now a wide selection of large-flowered hybrid forms, but these will be better left for consideration in a separate article.

Many of the most beautiful and most suitable plants for adorning walls are not, strictly speaking, climbers at all, though they may be trained to cover a considerable area of wall surface. Prominent in this class are some of the *Ceanothuses*, such as *C. rigidus*, with small neat dark green evergreen foliage and small but crowded heads of almost indigo blue flowers; *C. thyrsiflorus*, with pale blue flowers, and its variety *griseus* with larger foliage and pale lilac flowers, an excellent sort; *C. dentatus*, bright blue; and *C. Veitchianus*, also bright blue. The nomenclature of these *Ceanothuses* is much confused in nurseries, but, fortunately, if the wrong species be supplied it is unlikely to be otherwise than beautiful. *Ceanothus Gloire de Versailles* is now common in gardens; it does not, in most localities, require the protection of a wall, but the typical *Ceanothus azureus*, though smaller in leaf and flower, is very desirable, less often seen and more tender. It will reach a height of 8 ft. or so against a wall.

Other invaluable non-climbing shrubs for a wall are the *Pyraecanthas*, both the typical *Pyraecantha* (*P. coccinea*), with its orange-fruited variety *Lalandei*, and the very variable *P. Rogersiana*, with varieties bearing fruits of every hue from golden yellow to red. Then there is the delightful Winter Sweet, *Chimonanthus fragrans*, which, on a wall, flowers in the darkest days of winter. Its curious semi-transparent flowers of greenish yellow have small inner purplish petals. There is, however a variety (*luteus*) with the petals all yellow and a form larger in all its parts called *grandiflorus*, which has flowers of brighter colouring but with less of the characteristic and delightful fragrance.

The White Jasmine (*Jasminum officinale*) is a beautiful and fragrant if rather informal-looking climber, admirable for the walls of stabling or outbuildings. It is too well known to need description. The yellow Jasmine (*J. nudiflorum*), with its bright yellow flowers in midwinter is generally admired, its only drawback being the bare stems upon which the flowers are produced. This may, however, be largely overcome by training the plant on a trellis in front of a small-leaved ivy or other close-growing evergreen climber. The beautiful but not very hardy *J. primulinum*, with larger, more substantial flowers is evergreen, and is a valuable shrub for a south-west wall in more sheltered districts.

For a south wall in fairly mild localities there is little more beautiful than *Solanum jasminoides*, which flowers for a long period in summer. Again, there is the Passion Flower, *Pasiflora coerulea*, and its white-flowered variety *Constance Elliott*, which, while not quite hardy in most districts, are admirable near the coast. The Rose family is too big to consider in detail in this short article, but preference should be given to true climbing varieties rather than to ramblers. Such sorts as the two *Banksians* (white and yellow), the *Gloire de Dijon*, *Mme. Berard*, *William Allan Richardson*, *Abster Stella Gray*, *Réve d'Or*, *sinica Anemone*, the climbing forms of *Lady Ashtown*, *Lady Hillingdon*, *Papa Gontier*, *Mrs. W. J. Grant*, *Melanie Souper* and *Paul Lede* are excellent for south or west walls; while *Mme. A. Carrière*, *Grüss an Tepnitz*, *Gloire de Dijon*, *Ard's Rover* and *Climbing Caroline Testout* provide a selection for those with an eastern aspect.

VIOLAS FOR GARDEN DECORATION

AN IMPRESSION OF THE VIOLA TRIALS AT WISLEY.

The following notes on some of the best Violas that have proved good all-round garden varieties should be of exceptional value to those contemplating growing these beautiful flowers.

THE trial of Violas in the gardens of the Royal Horticultural Society, Wisley, Surrey, during the current year, may be regarded as an unqualified success. Violas in the south of England, so far as the writer is able to determine after a long association with these plants, have never been represented in better form and condition. This is all the more remarkable in view of the unsatisfactory condition of many of the small plants sent to the gardens in February and March last by the trade and others.

Readers will remember how burnt up were the plants of most Violas last year owing to the long period of drought throughout the summer months.

Those responsible for the trial are heartily to be congratulated on the very excellent results achieved.

The trial is not so large or so comprehensive as that which was held under the auspices of the Viola Conference Committee in the Royal Botanic Gardens, Regent's Park, London, N.W., during 1896, but it is infinitely better than the last trial of Violas, held in the old Chiswick Gardens, of the Royal Horticultural Society.

In the present instance, quite a large number of the better Violas are represented, but many notable sorts are conspicuous by their absence. It must not be thought, however, that there is anything wanting in this trial: nothing of the sort! It is

a plant for garden embellishment. For this reason it is very necessary to differentiate between the two sections or types.

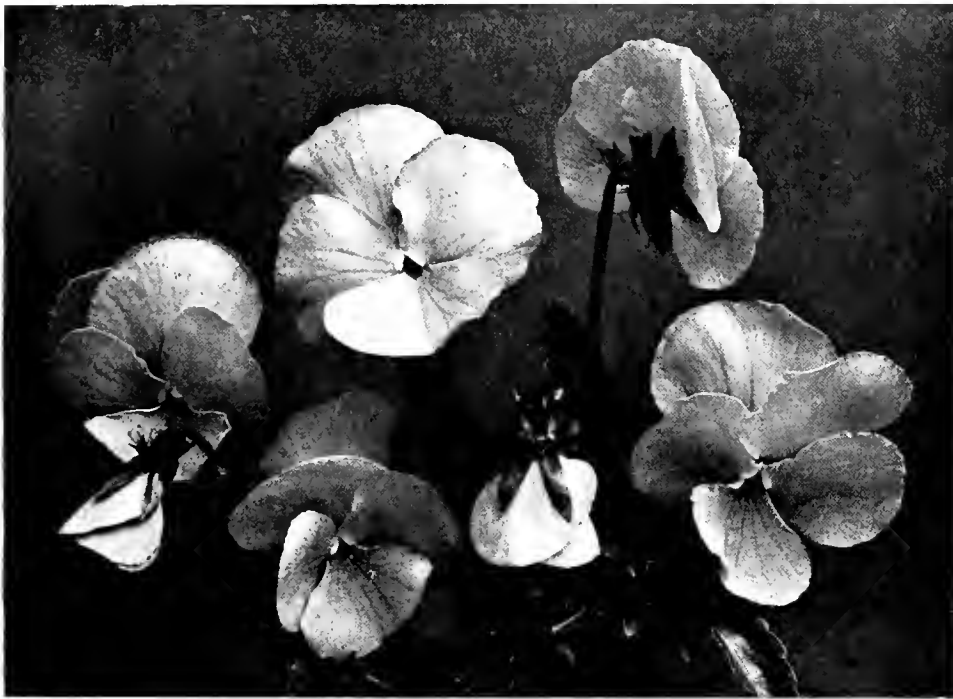
As I mentioned before, I have never seen the Viola better grown anywhere in the South of England during the thirty-three years I have endeavoured closely to follow the development of this beautiful flower. Certainly, the moist weather of the latter half of June and throughout July provided the plants with just the conditions they revel in, and to this fact, together with the careful preparation of the flowering quarters, may be largely attributed the undoubted success of the trial. When they were visited by the committee appointed to adjudicate upon the trial, the plants were luxuriating. They were flowering in the greatest profusion, and their real value in the garden, consequently, could be seen and appreciated at once.

The moister weather experienced during the period above mentioned, was, no doubt, responsible for the wonderful growth made in a comparatively short season since the plants were put out in their flowering quarters. I believe the plants were put out a foot apart and, in a great many instances, the intervening spaces were filled with free-flowering growths, on the occasion of the writer's visit during the third week of July last. They were then in the pink of condition, spent blossoms and seed pods were not in evidence and the plants were blossoming in the greatest profusion. Readers will, no doubt, be interested to learn the results of the Committee's adjudication of the trial. This result should be of considerable service to those who purpose planting the Viola another season, and who naturally desire to plant only the very best sorts. I therefore purpose to call attention to the more noteworthy sorts.

The plants are arranged in colours together so that in this way comparison can be made between one sort and another, both in regard to habit and the quality or character of the respective flowers.

Of white sorts there is a large number of chaste varieties mostly rayless, although there are a few dainty sorts with neatly pencilled rays. The best white variety to which an award of merit was granted is Swan. This is a free-flowering plant, having almost circular, pure white rayless blossoms with a big orange yellow eye; the habit in this instance is dwarf and compact, and the plant has a good constitution. Three other sorts, named respectively Snow Queen, Purity and Snowflake, are white sorts, so nearly alike that they are bracketed together in regard to the award of merit granted in their favour. They are rayless sorts, very free flowering, but not so dwarf or compact as Swan. A creamy-white rayless variety is Blanche; it is also known as White Empress. In this case the habit is dwarf and compact and rather free flowering. This plant was highly commended. A rayed white sort that was also highly commended is Alexandra. This is a large flower and one of the best of its type. Queen of Whites is a good white-rayed sort, much admired by some growers.

There is quite a plethora of highly attractive and distinctly beautiful yellow sorts. Some of the large flowered kinds are rather coarse in appearance, while others are refined and beautifully finished in character. The huge flowers of Moseley Perfection are in evidence on plants received from several sources. This is one of the varieties useful alike for the garden and for exhibition. The rayless flowers, however, are rather coarse, but are freely produced on long stout stems, on plants possessing a vigorous, if somewhat coarse habit of growth. For bold effects, however, this rich yellow variety in a mass is very striking and notable. It well deserves the award of merit granted in its favour. Another variety that received this award is Margaret Wood. This is a refined circular rayless flower, colour canary yellow with a rich



THE RICH YELLOW VIOLA SIR R. BADEN-POWELL.

during which season the Viola almost invariably makes rapid growth. It was not so dry as it was during the year 1911, when so many growers completely lost their stocks: still, it was very hot and dry for an unduly long period, and caused many stocks to fail and others to become so impoverished as to exhaust their vitality to no small extent. It will, therefore, be easily understood that, until copious rains had fallen, to assist in the rehabilitation of the plants, the growths were not of the character to promise good material for the perpetuation of the different stocks. Consequently, the supply of cuttings was restricted and the cuttings themselves not at all satisfactory. It was, no doubt, largely due to this fact that the small plants sent to the Wisley gardens for trial did not possess the character and stamina that are seen after a more normal season. I believe many of the young plants on reaching the gardens had to be "nursed," so to speak, with considerable care before they could be regarded as being in a fit condition to plant outdoors in the quarters allocated to them.

an excellent representation of the plant, and the varieties included therein comprise plants possessing habits of growth of varying character, and the colour, form and markings of the flowers are pleasingly diversified.

The Society asked for three plants of each sort to be sent. This is rather few: six plants of each variety I think would have been better. This shortcoming is made up in some measure, however, as several growers have sent plants of the same variety, and of the more popular sorts, there are sometimes as many as twelve plants. The newer and less known sorts are often represented by three plants only.

Violas especially suited for garden embellishment largely predominate, and this is very fortunate, as their free-flowering propensity and their generally acknowledged beauty completely eclipse the exhibition Viola. This latter plant evolves unduly large flowers of good form and pleasing colour, but the habit is, in most cases, thoroughly unsatisfactory. In very few instances indeed can the exhibition Viola be regarded as equally useful as

orange eye. The plant is free flowering, but rather less robust than some others. Quite the best of this type, and more refined than the last mentioned is Dorothea, which also received an award of merit. It is a novelty, and one of the best I have seen this season. The colour may be described as rich canary yellow, with a rich orange suffusion running into the eye, and rayless. The flowers are large and circular, and beautifully finished. The plant is a profuse bloomer and the habit excellent. Two rayless sorts that received the recognition of being highly commended are Kingcup and Royal Sovereign, both rich yellow.

Sir Robert Baden-Powell is a useful flower of beautiful finish, of the richest tone of yellow and rayless. It was shown at a recent fortnightly meeting of the Royal Horticultural Society. Pale yellow rayless sorts are well represented by Primrose Dame, which was highly commended. The plant is free flowering and has a good constitution. An award of merit was granted to Lady Knox, a beautiful primrose rayless oval self, largely grown in British gardens.

Mary Burton, as we saw it, is one of the most distinct Violas and the best of its kind. The colour may be described as pale rosy mauve, with very neat veins or pencillings; this plant well deserved the award of merit it received. J. B. Riding is another consistently good sort and was deservedly granted an award of merit; it is one of the finest and most dependable; colour crimson mauve. Another good rosy mauve sort that was highly commended is Bertha, which is very free flowering.

Mauve and mauve blue sorts abound. Maggie Mott is a soft mauve sort probably more largely grown than any other Viola. This variety rightly received an award of merit. It is free flowering, has a good constitution and is most dependable. A similar award was made in favour of W. H.

Woodgate, a pale lavender blue, almost a pale blue Viola, that is valued for its colour more than for any other quality that the plant may possess. An award of merit was also granted to Mrs. Alsop, a bluish mauve sort, very free flowering, possessing a good habit of growth. When in good form, John Quarten, a light mauve self, is a useful plant in the garden. This variety was highly commended. It is a profuse bloomer, although the blooms are rather small; the constitution is excellent. A deep lavender self that was also highly commended is Perdita; it is a useful sort and is free flowering.

Kitty Bell is quite an old sort, but well maintains its position as a dependable sort of lavender colour. It is a profuse flowering plant and possesses a wiry constitution, highly commended. Mauve Queen received a like award. It is a plant with a sturdy habit of growth, of somewhat compact habit, evolves bluish mauve flowers of a quite distinct tone of colour, and comes into flower rather later than most others. Bridal Morn was also highly commended. As a flower, there is not much to commend it, but it is free flowering and the flowers are of a light mauve blue colour, but its habit leaves much to be desired. One of the newer rayless varieties to command attention is Newton Mauve. This is a rich mauve-coloured flower that is evolved quite freely on a tufted habit of growth and one that has been admired all through the season. This variety was highly commended. Especially noteworthy are the flowers of John Forbes, which may be described as violet shading to rich rose, and, at the time of our visit, the plants were flowering quite freely; highly commended. Another of a similar class which received the same recognition is William Daniels; this is a purple violet flower of good form and of splendid substance. Admiral of the Blues is one of the best rayless rich blue selfs, but the habit is not all we would desire.

It is very beautiful, however, and well merited the high commendation it received. Councillor Waters is an old and tried sort, and is described as crimson purple, and as such it is quite distinct. Its habit is good and the plant flowers freely; highly commended. It is years since Admiration was first sent out, but as seen at the trial it is a quite good plant, flowering in profusion, and yielding useful blossoms of a deep purple blue colour; its habit of growth is excellent; highly commended. Peace received a like award. It is a lovely circular flower, rayless, and the colour may be described as creamy white, upper petals tinted heliotrope. Dumbrian, pale mauve, lighter centre, was also highly commended. It is a dainty flower and the plant is a free bloomer. Mrs. Chichester was credited with a similar honour. It is a large flower, colour white, flaked and bordered bluish purple, paling in warm weather. It is a very dependable plant, flowers in the greatest profusion and possesses a most robust constitution. The best of the fancy Violas is undoubtedly Dr. McFarlane, which received an award of merit. It is a most consistent sort and is quite old. The colour may be described as, upper petals, mauve, lower petals, purple—a quite effective plant in the border, and a good constitution. A similar honour was conferred on President, a flower streaked and blotched crimson; quite distinct. A very old variety named Jackanapes was highly commended. It is a highly popular variety, and the colour is brown and yellow. It is one of the freest of the free-flowered sorts, and is, in the opinion of some people, a most effective bedder. Mrs. Marrison, in shades of mahogany and bronze, is also excellent.

D. B. CRANE.

[We are indebted to Mr. William Vandell, Castle Hill Nurseries, Maidenhead, for the flowers from which the accompanying pictures were made.—Ed.]



VIOLA QUEEN OF THE WHITES.



A STUDY IN MAHOGANY AND BRONZE, MRS. MARRISON.

BULB ORDERS.—III

The Ranunculus—Broad-casting to learn its management—Crocuses—Bulbous Irises—A lament over names—Ornithogalum nutans—Betty-go-to-bed-at-noon—Ixiolirions—Last tips.

IN my previous notes I have written about the "big three" of the various families of bulbs which are included in a present-day catalogue. Here, again, in dealing with the smaller fry I am simply going to draw my bow at a venture. First, however, let me ask for information. Who buys all the Ranunculuses? I am going to buy a few this autumn—so many French; so many Turban; so many Persian. In thus stating my intention I have to confess that it is a very decided case of "if at first you don't succeed, try, try again." I have planted them here, I have planted them there; I have dug out a huge hole to the depth of two feet and filled it up with carefully selected and arranged ingredients; I have put them in ordinary good soil at just the prescribed depth; I have watered them and shaded them with unflinching regularity; Eve did not tend her flowers in Paradise with greater diligence and enthusiasm than I displayed in looking after my Ranunculuses; but all to no purpose. The best results were bad bests. How is it in other gardens? When I look back I can only call to mind one in which I have seen them. That was in that "Lancashire Garden" made famous for all time by those delightful essays of its scholarly owner, Henry Bright. I saw it under the ownership of his son. Ranunculuses were still grown and, as a rule, were a success, but when I was there it was one of their bad years. I do not think I have ever seen them elsewhere. Why? Because I feel sure they come under the head of "difficult" plants. Our grandfathers realised this and in the "Florists' and Amateurs' Annual," published by the *Gardeners' Gazette* in 1840, a writer there states that the best methods for growing them have equalled in number the "specifics for the gout and rheumatism or pills to cure the bile, or remedies for cough and asthma, invented by all the quacks of the last century." "Some," says the writer, "were truly monstrous," on a par with "filling the mouth with water and sitting on the fire till it boils, to cure the toothache." It is consoling in a way to know the difficulties of Ranunculus culture are of long standing, but it is not helpful. I would like to have been able to suggest some varieties, but perhaps the recitation of my failures will do instead, on the principle of the longest way round being the shortest way there. They are such bright flowers, I should like to know a real best way from some successful modern Tyso.

After Hyacinths, Tulips and Daffodils, which comes next in importance? Crocuses or bulbous Irises? I am not going to get off my perch on the gate. A modern garden would be no garden unless representatives of both families were planted in it. My love for the great yellow Dutch crocuses is no less than that of Forbes Watson, who saw so much of the hidden beauty of the ordinary everyday flowers of our gardens. Plant in quantity and leave them alone. With their diminution in size there comes a greater intensity of colour—real or possibly only imagined from their closer juxtaposition. If

you do buy any Crocuses don't leave out Dorothea or Dorothy. It is a pale silvery mauve with glorious orange red stigmas. I have found it, after Sieber, about the most satisfactory of Crocuses for growing in pots. A new lot of garden hybrids have recently been raised with, I believe, only species blood in them. The lovely deep primrose "E. A. Bowles" makes me wish I had a self-filling purse that would allow me occasionally to indulge an expensive fancy. As far as my experience goes, it is as well able to take care of itself as the old yellow. Just as Gibson Bowles suggests Parliament so E. A. Bowles, when you are thinking about Irises,



THE CHARMING AND BRILLIANT HYACINTHUS AZUREUS.

suggests Cantab. He raised it. If we describe *reticulata* as Oxford blue in colour, Cantab may be called Cambridge blue—neither description is strictly accurate, but it marks their difference and gives a rough idea of their colour. Would that *reticulata* were less expensive so that it might be grown *ad lib.* in pots. It would be so useful to have a dozen low pots or small pans of it in early January. With me this treatment almost invariably means death to the bulbs. My soil does not really suit either Spanish or Dutch Irises.

Spanish sorts which I suggest are Prince Henry (bronze), Souvenir (pale silvery mauve), Flora (white and mauve), Royal Blue (deep rich blue), Sweetheart (primrose) and Cajanus (rich yellow). The Dutch Irises are a useful race, flowering from ten days to a fortnight before the Spanish and being more amenable to the conditions of life in pots. I cannot help an aside here. It is to shed a tear over the degeneracy of their names. A superb race of garden flowers, raised by a Dutchman, matured and grown on Dutch land, and then named with righteous pride after the master-painter-geniuses of the Dutch race, are no longer Hals, Rembrandt, Van der Helst, Potter and Sandredam, but have such colourless names as Golden Glory, White Excelsior and True Blue. It is a poor exchange to be told a certain flower of a certain race is blue or yellow or white from the fuller meaning that is attached to the painter

name. They are by no means exhausted. There are still Adriaan van Ostade and Jan van Huysum to be used; and when all are exhausted it will be high time to think if the making of these flowers without end has not gone far enough. Try, if only to remind yourself of the great painters of Holland—Rembrandt, Frans Hals, van Evedingen, Voerman (the magnificent white) and Van der Helst, which after two years' experience I single out as about the best when beauty and constitution are taken into account.

When a plant is championed by Sir Herbert Maxwell it is certainly one to be reckoned with. I can recall no flower with such a real silvery look as *Ornithogalum nutans*. It is very hardy, not in the least particular about soil, and very uncommon-looking. It is useful and uncommon-looking in vases either alone or in combination with other flowers, especially those of a pink shade. The casual person might easily imagine that if he heard these

two nicknames, "Go-to-bed-at-noon" and "Betty-go-to-bed-at-noon," that they stood for the same plant. It is not so, by any means. "Go-to-bed-at-noon" is *Tragopogon pratensis*, which, since the war, has suddenly appeared as a weed in my garden and is none other than the widely known Goat's Beard. "Betty-go-to-bed-at-noon" is our very local name for *Ornithogalum umbellatum* (see "English Plant Names," by Britten and Holland, page 40, where Ellesmere (Salop) is given as the locality for its usage—we are nine miles from Ellesmere—old folk still speak of it under this name), which also is in the Rectory garden where it has seeded itself "all over the shop" and is generally known as Star of Bethlehem, as it has been from Tusser's day onwards. The nomenclature of plants is often most confusing; in fact, it is frequently on a par with "the Rule of Three" of the nursery

rhyme. I want to sing the praises of an infrequently-met-with bulb, but for the life of me I do not know what I ought to call it. If the "Kew Hand List" is the final court of appeal, I must write it down as *Ixiolirion montanum* var. *tartaricum*; but if I wanted to buy a few bulbs from van Tubergen of Haarlem I would have to write for "Pallasii (*tartaricum*)" and then to find out something about it from Nicholson's Dictionary I would find "*tartaricum* syn. *montanum*." Beware, then, in buying. Say you want the rich deep purple-blue, which is a good doer. I do not know how it came about that the genus was called *Ixia* Lily (*Ixiolirion*). The general effect in gardens and vases reminds me much more of a *Brodiaea*, especially *B. Purdyi*. Its inflorescence is neither a simple spike nor an umbel, but something between the two. The purple-blue colour of the flowers is much more like a *Brodiaea*. I have had fine pots of it in a cold frame from which frost has been excluded. I have had just once a couple of stray plants turn up in a border outside, but it is only in the warmest and most favoured parts of Britain that open-air culture should be attempted. I must pay the penalty for this digression. My final tips must be but bare names—*Brodiaea ixionides splendens*, *B. Bridgesii*, *Hyacinthus azureus*, *Ixia* (var. *Englishtom*), *Erythronium Hartwegii*, *E. grandiflorum*, *E. revolutum*, White Beauty and E. Johnsoni and the pure white *Milla* (*Triteleia*) *uniflora*. JOSEPH JACOB.

COLOUR EFFECTS IN THE LATE SUMMER BORDER

BY GERTRUDE JEKYLL, V.M.H.

It is to be regretted that so many people make it a rule to be away from home in August, for that month is just the time when a well arranged flower border is likely to be at its best. It is necessarily so because the plants that are of the noblest aspect, of the greatest stature and of the most gorgeous colouring, such as Hollyhocks, Dahlias, Cannas and Pentstemons, are then in bloom. However, August has July

on one side and September on the other, and, as the season of the main flower border extends over these three months, it is only the middle portion that is lost by those who are away.

Taking the main features of an existing border that faces nearly south, the western end has flowers of blue, with tender coloured accompaniment of white and pale yellow. The Delphiniums of July have had their tall seed pods cut, leaving the stems

about 5ft. high. Clematis Flammula, planted behind, is coming over and resting in these cut stems and will be a sheet of bloom in September. A bush of Ceanothus Gloire de Versailles still shows a misty cloud of its grey-blue bloom. Further forward in the border are tall white Snapdragons and a drift of the charming dwarf Agapanthus Mooreanus, and then the stronger blue of a carefully kept strain of Delphinium consolida. Next at the back, is the good old Dahlia Mrs. Hawkins, pale yellow with a warmer shade towards the outside of the petals, and then a pleasant mixture of primrose Sunflowers peeping through and showing above a mass of the creamy plumes of Artemisia lactiflora. This is backed by a goodly bush of Gold Privet, whose yellow is actually brighter than that of the Sunflowers.

Now comes a yard or two without much positive colour except for some short yellow Snapdragons in the front with the rich deep green of Crested Tansy, and a good show of bloom of Buddleia Veitchiana on the wall at the back. A large group of Chrysanthemum maximum is here out of bloom; behind it is the tall Helianthus orgyalis, the greater part of it trained down over the Chrysanthemum and a patch of Eryngium of earlier bloom. This pulling down makes it throw out flowering shoots at every axil, and in September it will be a spreading sheet of bright yellow. Now comes a gold Elder at the back, cut back every year so that it makes a good head of its yellow green leaves. Rudbeckia Golden Glow, of lanky growth, is partly trained into the Elder and partly pulled down. Again there comes a patch of pale Sunflower in a setting of Artemisia lactiflora, and in front a yard or two of Helium pumilum giving several weeks' display of its splendid yellow.

From here onward the colouring becomes warmer, with a group of the low-toned copper-red Dahlia Oban accompanied by the reddish leaved Atriplex hortensis, a plant that shows redder as the season advances and the bloom turns to a mass of flattish seed pods. The colour strengthens through Tritomas tall and dwarf, and orange African Marigold, both as yet only beginning to show colour, but full of promise for September. Helium striatum is behind the Tritomas, and in front is a gorgeous mass of Helium cupreum, orange Pot Marigold and a double orange dwarf Tropaeolum. Now is coming the most sumptuous mass of the border's colouring. At the back is a mixture of darkest claret with deep blood-red Hollyhocks, intergrouped with bushes of Prunus pissardi and with a tall dark claret Dahlia. Shorter Dahlias of strongest red come next to these, and nearer still a brilliant pot-pourri of scarlet Pentstemon, Scarlet Phlox and Monarda, leading to orange red Snapdragon and orange Gazania next the path. A deep red drift also streams away from the rich warm colouring of the back; it is of dark velvety Snapdragons, with a good French variety of Amaranthus and Iresine coming forward and mingling with Geranium Paul Crampel.

The colour now passes again through orange to yellow with Rudbeckia speciosa in the front, leading to the pale primrose-coloured African Marigold and the good striped grass Glyceria aquatica, with the clear pale yellow of Calceolaria amplexicaulis and the yellow, white-splashed, Mentha rotundifolia. Striped Maize is at the back. A patch of Eryngium that was in flower in July has been shrouded by a white Everlasting Pea, and as this goes over it is again covered with a late blooming hybrid Clematis. This is followed by a cloudy mass of the greyish blue purple of Campanula lactiflora, and then comes a bold group of Yuccas.

The length of the border so far is 130ft., but now a path cuts across, leading to an arched doorway in the stone wall. The arch is now obscured



THE EASTERN END OF THE FLOWER BORDER AT MUNSTEAD WOOD.



THE CROSS PATH.

by the growth of *Choisya* on each side; through the open door one sees a more distant arch of Yew that leads out of a part of the garden that is beyond the wall. The tall tree-like growth to the left of the opening is *Magnolia conspicua*, loaded with bloom at the end of March. Beyond the cross path there is a shorter length of border, about 50ft., also beginning with *Yuccas*. It has flowers of light colouring, answering, with quite different treatment, to the blue and white of the western end. Here the flowers are purple, pink and white; pink and white *Hollyhocks* at the back and white *Dahlias*, with one or two of the earlier *Asters* of which the beautiful *A. acris* is one; *Salvia virgata* for July and the showy mauve bracted *Clary*. The

Clary is cleared away when the bloom is over, as it is a biennial, and its place is taken by some pots of *Hydrangeas* plunged here and also in suitable places elsewhere. There are *Snapdragons* white and pink and *Campanula lactiflora* and a general front planting of grey and glaucous-leaved plants — *Seakale* and *Funkia Sieboldi*, *Cineraria maritima*, *Santolina* and *Stachys*, with *Ageratum* both tall and dwarf filling any vacancies.



A BEAUTIFUL WHITE ESCALLONIA, *E. MONTEVIDENSIS*.

HARDY ESCALLONIAS FOR PRESENT PLANTING

MOST of them being evergreens, the *Escallonias* should be planted in early autumn or, failing that, the later spring. As to the hardness of this beautiful race of South American shrubs, I can only say that most of those mentioned here have come through some severe trials (15° to 20° of frost) with little more injury than shrivelled foliage. Even when the ends of the branches have been killed by frost the bushes have come away in spring with the vigour of a Scotch *Fuchsia*. In all cases they are growing in well drained, light loam (rather stony, which they seem to like) and quite in the open. Doubtless, *Escallonias* are seen to greatest perfection in seaside gardens, and in those of our milder counties; but that many of them, including some of the best, will succeed in less genial climates there is sufficient proof. In very bleak districts these shrubs may be used on walls with admirable effect.

The old *E. macrantha*, with its large, glossy leaves which, when young, emit a delightfully aromatic perfume, is still one of the handsomest and best of its race. It will make a fine specimen shrub growing up to 8ft. or 10ft. high, with an even greater diameter, and is not less pleasing as an ornamental hedge. There are several forms of this species, varying considerably in the colour and size of their flowers and foliage. In a good form the

waxen, tubular blossoms borne in bold clusters should be about an inch long, nearly half as wide and of a deep crimson. *E. Ingrami* is apparently a form of *macrantha*, and *rubra* also comes close to the latter in form and habit. But whilst both are inferior in flower and leaf, *Ingrami* appears to enjoy the merit of superior hardiness. One of the best varieties of *E. macrantha* is one I have seen sent out under the name of *sanguinea* (*punctata*), which excels in the brilliant colouring of its flowers.

Whilst the above are not usually in full bloom until the later summer, the splendid hybrid, *E. langleyensis* (*macrantha* x *Philippiana*), will often commence in June and continue to flower until well into autumn. This is a very vigorous and in every way an admirable shrub, hardier than many others, and a rapid grower which throws out its gracefully arched wands to several feet in length in a season. The foliage is rather more sparse than in the above-mentioned, and the smaller leaves are a yellowish green. The bright, blood-red flower clusters are longer and more prominent than is usual in others of this genus, and when the arching branches are

wreathed with these in the generous manner peculiar to this hybrid, the effect is most beautiful. The individual flowers are about ½ in. in diameter, and a well grown shrub will attain to 10ft. in height and as much in width. Save when one is obliged, on account of climate, to grow *E. langleyensis* on a wall, it should always be given tree space to make a large natural mound, for in no other way is it seen to full advantage.

E. Philippiana, despite the fact that it is said to be "evergreen" in not a few books and catalogues, is here thoroughly deciduous and quite one of the hardiest of all. It makes a good-sized bush, consisting of dense growths of fine interlacing branches which, about midsummer, bear myriads of little white flowers, sweetly scented. The leaves being very small, a well flowered specimen of *E. Philippiana* will look as white as the Blackthorn in March.

Perhaps the finest white is *E. floribunda** (*montevidensis*), which is rather more tender than any of the foregoing, though it has never had more than its tender tips injured with us. *E. floribunda* attains a height of 6ft. to 8ft., the oar-shaped, apple-green leaves being glossy and inclined to be red in the midrib when young. The flowers are produced at the ends of the new shoots in August or later, in large, loose clusters of pure white blooms, very conspicuous and fragrant.

E. "Donard Seedling" is a tree-growing, vigorous variety in a pale blush, hardly producing so fine a show as "Edinburgh," said to be a hybrid between *Philippiana* and *sanguinea*. This is a first-rate *Escallonia* much after the style of *langleyensis*, very hardy and an abundant producer of vivid pink flowers. Another exceptionally striking hybrid is *E. exoniensis*, which goes up to 12ft. or more, bearing creamy-white waxen flowers; and *organensis*, with coral-red blossoms and a reddish tinted foliage, is a good species. A. T. J. N. Wales.

*According to Bean's "Trees and Shrubs" *E. montevidensis* is distinct from *E. floribunda*, and has larger flowers.—[E.]



HARDEST OF ESCALLONIAS—*E. PHILIPPIANA*.

ALPINES UNDER GLASS

THOUGH, in some quarters, a prejudice still exists against growing alpines in any other way than in the open air on the rock garden, there cannot be any doubt that Alpine house culture for these beautiful plants is gaining fresh adherents every year. Artificial? Yes. But so is the rock garden, when compared with the free open mountain and pasture land, and a system of culture which provides such a charming effect during February, March and

April as the alpine house affords does not merit much criticism. True, that everything is confined in a pot or pan and set out in rows confined within four walls; but when so displayed the plants become individuals and less one of a crowd, so that their exquisite beauty and charm appeal with far greater force and are much more highly appreciated.

Though I have singled out February, March and April for special mention, do not let us overlook the fact that this is the flower time, and that by

judiciously selecting the plants that are to be grown, the house may be crammed with interest, even as early as December, when, as a rule, the average garden has but little of interest to show. One is called upon to stoke no fire, so that cost is reduced to a minimum; one has no worry as to whether Jack Frost has nipped in and ruined the labour of months; while the house is left vacant just at the right time to fill up with tomatoes or summer flowers, as the owner's fancy may dictate.

The questions arise: "What kind of house is the best for growing these miniature gems?" "What are the other necessary accessories?" and "When is the best time to start?"

THE HOUSE.

The first essential is that it should be a span roof building (preferably running north and south), not too lofty and right out in the open, so that it will not be shaded either by trees or buildings. It must be unheated. Let there be no doubt on that point: heat, even the gentlest warmth, is not only unnecessary, but positively harmful. Many and many a house that has been used as a greenhouse and that is fitted with hot water heating can be adapted by the simple expedient of not using the fire; but no heat must be used—that is final.

The sole object of an alpine house is to afford protection against rain, snow and wind, so that the longest possible period of flower perfection can be enjoyed, so that free and abundant ventilation is of the utmost importance. Too much emphasis cannot be laid upon this; a damp, clammy atmosphere being, with artificial heat, one of the two things which the plants will not tolerate. Bottom, side and top ventilators should be provided upon the most generous lines, so that night and day, unless under most exceptional circumstances, a current of air will be passing through the house, carrying away all superfluous moisture with it. The roof ventilators ought not to be quite closed at any time, those below the stage and at the side being used according to the state of the weather. A closed staging is best, consisting of a layer of slate upon which a couple of inches of coke breeze have been spread, though proper facilities must be provided for draining this or it will produce damp.

So much for the house and its fitment, but—in addition to this—provision must be made for the happiness of the plants at other seasons of the year, while they are not occupying the house. The most satisfactory, from the cultural point of view as well as saving labour, is an ash bed in the open ground where the pans can be sunk to the rim and so kept cool and moist.

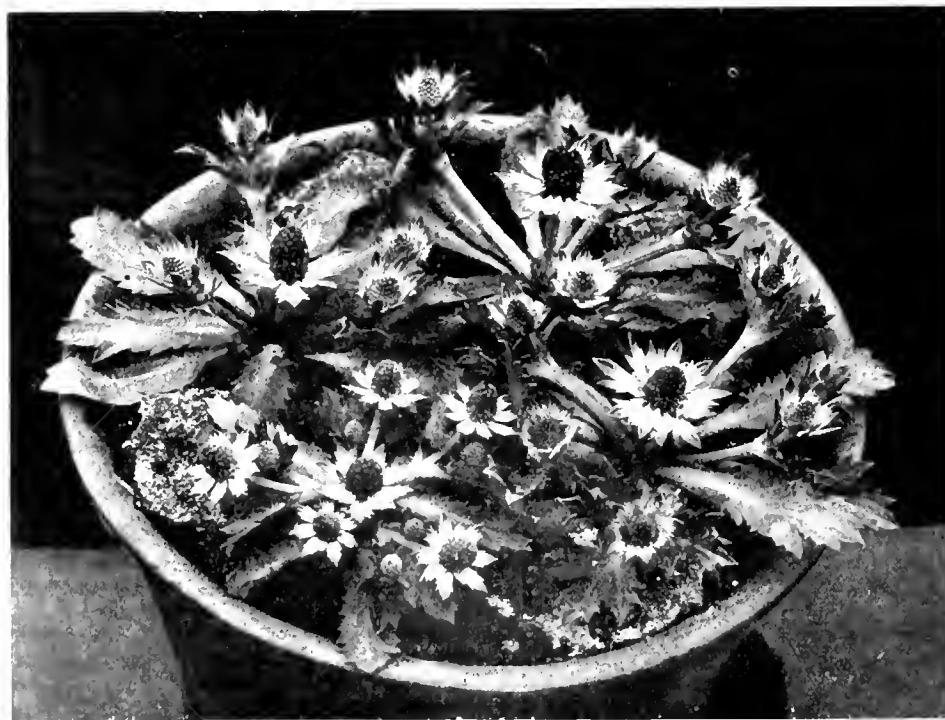
THE PLANTS TO GROW.

This leads us, naturally, to the best period at which to make a beginning, the material to use, and general cultural management. Personally, I think there is no better period than autumn, for so many plants can then be potted on, so many seedlings have made good progress and so many bulbs can be procured from the dealers, that one is sure of a very good display the first spring. Apart from the consideration of bulbs and seedlings, however, there is no season except the middle of the summer, during which a good beginning cannot be made.

Of bulbs and tubers which can be planted during the next few weeks a special note should be made of the following: Anemone blanda, with its splendid starry blue flowers; Anemone nemorosa Robinsoniana, the most and choicest variety of our Wood Anemone; Crocus species; Dog's Tooth Violets; Fritillaria aurea, and F.F. citrina, Meleagris, persica, pulchra, and recurva; Irises in a large range of species, such as alata (which flowers before Christmas) Bakeriana, orchoides and reticulata; and Muscaris in both white and blue. Among the most charming plants of all are the



A CHARMING BELL-FLOWER, *CAMPANULA TYMONSII*.



SILVER AND BLUE, *ERYNGIUM PROSTRATUM*.

This recently received an Award of Merit from the Royal Horticultural Society.

CORRESPONDENCE

A LATE-FLOWERING RHODODENDRON SPECIES.

miniature Narcissi—cyclamineus, Bulbocodium, minus and triandrus; while, as brilliant companions, the little known but interesting dwarf Tulip species provide us with a host of pans for successional purposes. Everything in the way of dwarf bulbous rooted plants is very attractive and the flowers open in spotless purity under the glass protection.

Of other plants it would scarcely be possible to write exhaustively within the limits of an article, but Primulas and Saxifrages alone (to mention but two genera) would be sufficient to furnish a large house for many weeks with such a display of lovely blossom as few who have not experimented with indoor alpiners would be disposed to credit. Just think for a moment of the various beautiful flowering "Saxies": the red "mossies," delicious alike in bud and blossom; the earliest tufted gems, such as *Bursleriana Gloria*; the *Megasea* section; and then the gracious encrusted forms. One can scarcely imagine a more dignified picture among all the wealth of the tropics than a fine example of *Saxifraga longifolia* in full flower. The great arching stem, rising 1½ ft. to 2 ft. high, smothered with myriads of its white flowers, springing from a huge rosette of silvery foliage, forms a glorious picture indeed.

With Primulas, too, the story is the same, save that here is an even greater diversity of form, colour and perfume. It is one of my dreams to possess a small house, filled entirely with hardy Primulas, in some future April and May that is to be and, when I do, I know that the result will prove that this is not the madness of an enthusiast, but that a real garden picture will result, a picture crowded with varying form, aglow with vivid colour and crammed with interest to garden lover, flower lover and botanist alike.

But even yet we have not exhausted possibilities. There is still a mighty host of Achilleas, Adonises, Campanulas, Daphnes, Ranondias, Haberleas, Scillas, Sempervivums, Statice, Trilliums, Violas, etc., that are no less interesting or beautiful. From the end of May onwards, all the plants should be taken into the open again and plunged to the rim in the ash-bed where a couple of good waterings a week will be all the care that they need. Two of these ash-beds are better than one, although both must be in an open position and not overhung by trees. One must be in shade and another in full sun so that all classes of plants can be suitably accommodated, Primulas, Cyclamens, Trilliums, etc., going into the shaded bed; sun-lovers such as the Saxifrages, Sempervivums, Irises, etc., enjoying the one in full sunshine.

The alpine house certainly provides us with one of the cheapest, most interesting spring features in the garden, and one can but hope to see an even larger extension of such a beautiful feature in the near future.

H. W. CANNING-WRIGHT.

[Mr Canning-Wright echoes the general experience in advocating a low house for Alpines. Some of the best Alpines ever grown under glass, however (and the least drawn) have been grown in tall (Palm) houses (quite drip-proof) where there is sufficient atmosphere to produce a little condensation on the foliage at night.—ED.]

FORTHCOMING EVENTS.

September 11.—United Horticultural Benent and Provident Society's Meeting.

September 12.—Auchencairn Horticultural Society's Annual Meeting.

September 13.—East Anglian Horticultural Society's Meeting. Shetheld Chrysanthemum Society's Meeting. Royal Caledonian Horticultural Society's Exhibition (2 days).

September 14.—Bristol and District Gardeners' Association's Meeting.

satisfactory, and shall probably be faithful to in the future, are, Lady Grisell Hamilton, lavender; Mrs. Hardeastle Sykes, pink; and Nora Unwin, white.—G. J.

"SOMERS" SHIRLEY POPPIES.

IN early spring I wrote about "Annual Flowers for Old Folks," and proceeded to carry my preaching into practice, but "it is always the unforeseen that occurs," and the loveliest of all my annuals this year have been "Somers'" Shirley Poppies. He very kindly sent me some



A FINE PLANT OF THE LATE-FLOWERING RHODODENDRON AURICULATUM.

crosses, we may have a July-flowering section of good hybrid Rhododendrons, which should prove a great addition to that wonderful family.—F. GOMER WATERLER, *Bagshot*.

SWEET PEAS.

WISDOM comes by experience in gardening as in all else, though human frailty is always apt to be beguiled by enticing words. For some years I have been tempted by the descriptions of Sweet Peas in the many seed lists that come to hand, and have often been captured by the alluring qualities ascribed to the numerous novelties that are brought forward from year to year. But thinking over some older kinds, and remembering which of these have given me the most genuine pleasure, I have reduced to three the kinds that are to me the most desirable. They are beautiful, fairly sweet scented, and the colours of the three in a mixed bunch are an unending delight. All further trouble or uncertainty as to what kinds of Sweet Peas to provide is at an end, for when complete contentment is achieved there is no need to look for further perplexity, or for further experimental excursions into the unknown. My own choice excludes the colours approaching salmon, scarlet and purple, finding greater delight in some of the tenderer shades. Those I have found so

seed last year which I sowed, but only a few plants came up and soon disappeared in the drought, to my deep disappointment. But after sulking for a whole twelve months, behold! this season they came up freely and were a daily delight for about two months. Never! never! have I seen anything to equal them. Well may "Somers" dilate on them! They truly surpass any Shirley Poppies I have ever seen. Neither description nor photograph can convey their beauty. The Rev. Wilks himself would turn green with envy. Of course, I am saving seed in the hope of perpetuating them and doling out little dollops of the same to a favoured few of my chief garden chums.—ANNIE AMATEUR.

SWEET PEA ROYAL SCOT.

ON page 424 of your issue dated August 20th your correspondent "H. L." presents his experiences with several popular Sweet Peas. The article is very interesting but in its final stage-reference is made to the variety Royal Scot as requiring shading from the hot sunshine. It is quite obvious that the very rich colour of this variety suggests that some shading is necessary, but my experience is that it is not required; in fact, it seems to revel in the sunshine. In the most sunny portion of my gardens I have too plants of

Royal Scot trained on the outer side of bamboos, where they get the benefit of sunshine practically all day long, and no burning of the bloom has been noticed.

Royal Scot is such an excellent grower—nearly all four flowered spikes—that I confidently suggest to "H. L." that he give it another trial; in fact, its delightful perfume should appeal to an enthusiast like "H. L."—HARRY SCHOLFIELD, *Heysham*.

A BEAUTIFUL SALVIA.

IN *Salvia dichroa* we have one of the most beautiful representatives of the Sage family but in this part of the country it is not quite hardy and must be grown in a sheltered position, although in more favoured districts it could undoubtedly be grown in the open. The species is not common in gardens, although it is by no means new, as it was introduced in 1871 by Mr. G. Maw, of Crocus fame, who collected it at the base of the Greater Atlas, south of the City of Morocco, at about 2,000ft. below Tasmeroot. Mr. Maw flowered it in August of the following year in his garden at Brosley in Shropshire. In Nicholson's Dictionary the height is given as 2 to 3ft., but this is misleading, as it grows 6 to 8ft. high, and a good specimen, bearing its fine spikes 3ft. long, is a beautiful sight. It has quite 12ms. out at once. The corolla is 1½ms. long, the upper lip being bright blue in colour, arcuate, pubescent, the lower lip of the same length as the upper and three lobed, the lateral lobes being pale blue, oblong in shape, and recurved, the central white lobe being concave, orbicular, and pendulous. The leaves, which are from 5 to 10ms. long, are roughly corrugated on the upper surface, with hairs on the reverse. It is closely allied to *Salvia bicolor*, and in the Index Kewensis, *Salvia dichroa* is referred to as *S. bicolor*, but there are considerable points of difference. The flowers of *S. bicolor* are bright blue with yellow dots on the upper lip, and although the flowers of *S. dichroa* are chiefly blue, the centre lobe of the lower lip is white, as already stated. The leaves of *S. dichroa* at the base are oblong, acute, irregularly cut into large obtuse lobules that point to the apex, while the radical leaves of *S. bicolor* are deeply cordate, sinuate and toothed, much cut with spreading teeth and lobes, and while the hairs on the stem of *S. bicolor* are spreading, those of *S. dichroa* are reverted. The plant is not difficult to cultivate and can be

easily propagated by division, root cuttings, or from seed.

The illustration is of a plant that has grown outside at Cambridge for a number of years against an east wall of one of the cool houses, where it gives an attractive display every year, making it quite evident that it deserves to be better known than it is at present. Its free flowering and stately habit makes it a plant worthy of a place in all gardens where it can have that slight amount of protection which it requires.—F. G. PRESTON (*Bot. Garden, Cambridge*).

A FIELD OF YELLOW VERBASCUM LYCHNITIS.

IN the *Botanical Gazette*, 1850, page 251, the late Professor C. C. Babington recorded this plant "On the slope of the hill above Bossington, near Porlock . . . far above cultivation; and on the common near the mouth of the brook below that village, June, 1850."

Not only does this rare Mullein still grow in the vicinity, but a small enclosure on the steep hillside above Bossington was so yellow with it in July, 1922, that it formed a yellowish patch visible from the hills several miles away. Normally white or cream coloured, the Bossington plants are all a clear lemon yellow, with a small purple blotch at the base of each petal; and the stamens are orange. The flowers are also smaller than in the type. This is the variety *micranthum* of



THE STATELY SALVIA DICHROA.

Moretti, very rare in this country, as pointed out by Mr. S. T. Dunn in the *Journal of Botany*, 1894, page 23.

The small field above Bossington is of very stony ground and was at some recent time planted with Potatoes, for numerous Potato plants appear this year—also a considerable number of Thistles. On July 16, when I photographed the scene, I counted about 125 plants of the Mullein averaging 4ft. to 5ft. high. Many are branched to the ground, and one of the largest had about seventy branches over 6ins. long and numerous shorter branches on the top 18ins. of spike. Some of the leaves lie flat on the ground, the largest being a foot long.—H. S. THOMPSON

HOW TO TRAP MOLES.

IN your issue of August 19th is an interesting letter on the above-named subject by A. C. C., in which he says "you may tread heavily close to the spot where he is heaving up a molehill (provided you do not tread on his tunnel), without causing him to stop work." Now, I find that the best way of exterminating moles is to shoot them when they can be seen moving the earth, but the chief difficulty is in approaching softly enough for the mole not to hear or feel one's approach. If they do, they at once stop and stop for good. I see in Wood's "Natural History" that he agrees with this, and I cannot understand how A. C. C. comes to make his statement. I have cleared a whole field of moles in a few days by going out at 11 o'clock (or 12 o'clock summer time), which is the hour they will be found working. My gardener also shoots them and says the chief difficulty is to get near without their knowing.—THACKERAY TURNER.



WHERE VERBASCUM LYCHNITIS GROWS WILD.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Herbs.—Take the opportunity afforded by a fine day to cut those herbs required for use in a dried state during the winter. Previous to tying them into bunches for suspension in a dry, cool shed spread them out thinly for a few days to complete drying. Should Sweet Basil be required, sow some seed in a moderate temperature, and when the seedlings are strong enough prick five to seven out into 5in. or 6in. pots and keep them growing in the same heat until good bushes are secured, when they may be transferred to cooler quarters.

Spring-Sown Onions are, owing to the cold, wet July and early August showers, very slow in ripening off. Directly growth is complete pull the bulbs up and lay them on trellis to finish drying and ripening. Failing suitable conditions for them to be finished properly outside, an open airy shed or some dry cold frames must be utilised; for a thorough ripening is of great help in keeping the bulbs through the winter and early spring months. Onions having a thick neck are generally bad keepers, so should be drawn upon first for kitchen supplies.

The Flower Garden.

Lavender.—Whether the flowers have been cut and dried for indoor use or not, the plants in most instances will now be quite over and the majority of established hedges will be all the better for a good trimming back with a pair of shears. Should the plants have become large and unshapely, and perchance overgrown too, no fear whatever need be felt in cutting well into the old wood, as they generally quickly respond with an abundance of new growths. Cuttings inserted now in a cold frame in sandy soil will root readily and be available for autumn or spring planting as required.

Nepeta Mussini.—This extremely useful old garden favourite may be used in many ways with most pleasing results, and it is always advisable to have a good stock on hand. Plenty of cuttings are now available, and will root readily in light soil in a close cold frame. The old plants, too, if necessary, may be split up now into small pieces and replanted. Planted in front of a tall-growing Lavender, and linking up bold beds of the annual Delphinium in two shades of blue, it gave a most pleasing picture here this summer.

Penistemons.—Where old plants can remain and the soil and district are favourable for a fairly safe wintering the results amply repay the second season. Southgate and Newberry Gem seem particularly free the second season. It is, however, advisable to always have young stock coming along, and the present time is suitable to see to this by inserting cuttings in a cold frame about 3ins. apart. Keep close until rooted and afterwards always give plenty of air except during severe weather.

Rose Cuttings.—Quite good results are obtainable from cuttings of some of both sections, dwarf and climber. To attempt to increase all varieties of the former will probably be to court failure, and the Teas had better be omitted. Ramblers generally are easy to root so long as good firm wood is used after the tree has flowered. It is important to use a firm sandy compost and see that at least half the length of the cutting is in the ground. It is, certainly, not necessary for cuttings of the climbing section; but, if preferred, cuttings of the dwarfs may be placed in pots under a bell glass. The present is a suitable time for inserting the cuttings.

The Hardy Fruit Garden.

Apples and Pears.—Ripe and ripening fruits of the early Apples and Pears require watching carefully now, and the latter should be gathered a few days previous to becoming quite ripe. Pears, and more particularly the early ones, are most easily damaged, so should be carefully handled, and when gathered placed in a cool, airy room. Some of the very early Apples are not worth much labour and expense as regards storage, but are better to be used up as far as it is possible to do so direct from the trees, keeping storage quarters available for more profitable later varieties.

Peaches must not be allowed to get too far advanced before gathering them or they will probably prove quite second-rate in flavour. Rather gather them when it requires a decided pull to remove them, and give them a few days in the even temperature of a store room.

Fruit Under Glass.

Strawberries in Pots.—The first batch that was potted should now be well supplied with roots; and to enable the plants to build up plump, strong crowns which will respond to early forcing it will be best to feed them with diluted farmyard manure water. About once a week will be enough the first three weeks, but afterwards it may be used for every second watering. Keep all weeds and runners removed.

H. TURNER.

(Gardener to the Duke of Northumberland.)
Abury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Seakale.—Give the plants every assistance so that fine strong crowns may be had for forcing purposes. An application of guano, followed with a light sprinkling of sulphate of ammonia at a later date, should be given, hoeing the dressing lightly in between the rows. Old established plantations may also be considerably strengthened at this time by copious supplies of liquid manure.

Mushrooms.—Where material has been gathered and got into the right condition for making up the beds, no further time should be lost in having the beds prepared. Spread the manure evenly and have the bed thoroughly consolidated by treading and beating firmly. The depth of the bed made upon the flat need not be so deep as will be required at a later date when the weather becomes colder, 18ins. being deep enough for present purposes. When finished, a bottom-heat thermometer will indicate when the heat of the bed has declined sufficiently to allow for spawning being done. This should take place when the mercury falls to 80°. Use fresh spawn and break into small pieces about 2ins. square. Insert them just under the surface of the bed, about 5ins. apart each way. Make the surface quite firm again, covering over with finely sifted loam. This should be moist enough to allow for beating down and leaving perfectly smooth with the back of a spade. Cover over with a light dressing of hay or short litter. If the bed retains its heat and the temperature remains steady, Mushrooms should appear in about five or six weeks' time. When the mycelium begins to run freely remove the covering.

Early Sown Carrots should now be lifted and stored in a cool dry shed, placing sufficient sand among them to keep the roots moist. If left too long in the ground the roots split readily. More especially does this happen on heavy ground.

Cucumbers.—Fire heat will now be necessary in late planted pits if a profitable crop is to be produced. Less moisture will now be required owing to the shortening days and want of sunshine. Give a surface dressing of a quick acting fertiliser to plants in bearing and thin out all unnecessary growth.

Fruits Under Glass.

Melons.—Where crops are ripening care should be taken that the fruits are not allowed to hang too long before being cut. Directly the crack round the insertion of the stalk appears the fruit may be cut. Store the fruit in a cool room for some time. Keep the house dry, but allow free ventilation during suitable weather.

Replanting Peach Trees.—If for any cause the renovation of the border has been decided upon in the early Peach house, the work may be undertaken whenever the leaves show signs of maturity, with every prospect of the work turning out successfully, as owing to the trees still carrying their foliage new roots will at once be emitted and the trees will as a result recover more quickly than if left till the foliage has fallen. Provided the required quantity of compost has been prepared, the actual lifting and remaking of the border, wholly or partly, can be quickly effected. See that the ends of all broken roots are pared smooth with a sharp knife before replanting. The new compost should be settled about the roots by giving copious waterings, and this is best done before the final or topmost layer is spread and levelled down. Care should be taken to see that the roots are kept in a moist condition during the interval elapsing between their removal from the old soil and their being spread out aresh in the new compost. Mats soaked in water and rolled round the roots will serve the purpose.

Early Vines.—The laterals of early forced vines will now be sufficiently ripened to allow of

their being shortened. Remove about one third of each shoot at the same time removing all sub-laterals from the remaining parts. This pruning proves of considerable benefit in enabling an increased amount of light to ripen the wood, and by concentrating the sap will assist the buds that are to produce fruit next season. The border should still be kept reasonably moist.

JAMES McGRAN.

(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock.

GREENHOUSE AND CONSERVATORY.

Annuals for Pots may be sown from now until the end of the month. There is quite a number of hardy annuals that are general favourites for this purpose. Mignonette should, of course, always be included. Other plants specially suited for this purpose are Godetias and Clarkias. In dealing with the former Godetia Lavender should not be overlooked, as it makes a fine plant and is distinct in colour from any of the others. Schizanthus are very popular, and there are quite a number of good strains. The following are also exceedingly useful: Larkspurs in variety, Scabions, Chrysanthemum segetum varieties Evening and Morning Star, Chrysanthemum carinatum and varieties, C. inodorum Bridal Robe, Collinsia bicolor and its variety candidissima, Viscarias, Antirrhinums (although not strictly annuals, are generally treated as such), Trachymene carulea and Gilia capitata. This by no means exhausts the lists, but it will show what a variety one can choose from. The essential points to bear in mind are thin sowing in the first instance, pricking the resultant seedlings off before they become crowded, cool treatment, with full exposure to light and air at all stages of their cultivation, ample ventilation without draughts whenever the weather conditions are suitable, prompt attention as regards staking to those plants that require it and, of course, careful watering at all times. If these annuals receive a check, it is hardly ever possible to pull them round, as they have little power of recovery compared with plants of a perennial character. Seed should be sown in pots or boxes of light rich soil. Plants like Larkspurs and Mignonette that transplant badly should be sown directly into their flowering pots, 48-sized pots being best for this purpose. After sowing stand the pots or boxes in a cold frame or cool house, and shade them with sheets of paper until such time as they germinate. As already stated, these plants require a light, rich compost, which should be made fairly firm, as this tends to produce sturdier growth. Some old mushroom-bed manure is excellent to add to the potting compost.

Violets.—To attain the best results with these plants they must be well established before winter, thus there should be no delay in lifting them and transferring them to frames. Any frames that have been used for growing vegetables are excellent for this purpose. If such are not available, the frame may be partly filled with leaves, finishing off with at least a foot of good rich compost. The compost in the frame should be allowed to settle down for at least a week before the plants are placed therein. If the weather be at all dry, the plants should be given a thorough soaking at the root the day before it is proposed to lift them. When planting they should be kept close up to the glass and well watered in and kept close for a few days, shading them for a few hours each day in bright weather. In a few days the frame-lights may be removed altogether until such time as inclement weather sets in. If it is desired to grow any in pots, they should be lifted with a good ball of soil attached and carefully potted up in 6in. or 7in. pots, standing them in cold frames and keeping them close for a few days until they become established. If infested with red spider the plants must be kept well syringed until they are clean.

Chrysanthemums.—The early varieties whose buds are forward should now be removed to a cool, airy house; others should be kept regularly tied and made secure against stormy weather. Houses required for Chrysanthemums and other greenhouse plants that have been stood outdoors for the summer should be cleaned and prepared for their reception. The glass should be washed down and all wall surfaces given a coating of linewash. The best medium for making this fast is skim milk. All permanent shading should now be washed off, as it is very essential that plants should have all the light possible, and in a general way there is far too much shading used.

Tritonia crocata, of which there are quite a number of varieties, is very beautiful and useful

for the cool greenhouse, and it is surprising they are not more generally grown. Like most South African bulbs, their growing season is during our winter, and they succeed under the same cultural conditions advised for Freesias and may be potted up any time during this month. The corms are

small, and six or eight should be put into a 48-sized pot. They can be grown in cold frames until they show their flower-spikes during the spring, when they are best removed to a cool greenhouse. J. COURTS.

Royal Botanic Gardens, Kew.

THE CULTURE OF SWEET PEAS

THE art of growing Sweet Peas has now been brought to great perfection, and those who desire to exhibit should be prepared to spend a good deal of time over them in order to ensure success.

This applies to fruits, flowers or vegetables, so that Sweet Peas are no exception to the general rule. In olden times the general custom was to sow Sweet Peas in mixture in the form of hedges, or much the same as for garden Peas, and even now one may see them so grown occasionally in rural gardens. This plan does not allow individual varieties to show what they are capable of doing, because the strong-growing varieties cripple or suppress the weaker ones. It was not till the late Henry Eckford began to sow the varieties separately and to evolve fine new ones that the Sweet Pea showed what it was capable of doing for the beautifying of gardens.

WHEN TO SOW.

Where the soil is suitable, Sweet Peas may be sown in the open at the beginning of March, and again in October or November to stand the winter and flower early. Both these plans have been superseded, whether the object is for exhibition, for adorning the garden or for home decorations. Skillful growers now sow the seeds in 5in. pots and place them in a cold frame, to be kept close till the seedlings appear and then gradually ventilated. The best time to do this for the southern half of England is from October 7 to 14. Northern growers should sow a little earlier. As soon as the seedlings are well established the lights should be drawn right off every day, except during heavy rain and hard frost or snow. In gardens that are badly infested with sparrows, it will be necessary to lay netting over the frames to keep these marauders at bay. During mild weather the grower who is on the alert will occasionally examine the frames for slugs.

The next best time to sow, perhaps, would be at the end of January or beginning of February, and at this period of the year it will be necessary to give them gentle heat and keep them as near the glass as possible. As soon as they are well up, the seedlings will require judicious ventilation and weeding, for most soils are more or less full of the seeds of weeds.

PREPARATION OF THE SOIL.

If only one long row is to be sown, the soil should be trenched 3ft. wide and deep, well manuring it at the same time. Where several rows are intended, the whole of the soil should be trenched to this depth and well manured between the different spits. Where the sub-soil is very heavy this should be well broken up and manured, to ameliorate it and enable the roots to penetrate freely. Deep working of the soil adds greatly to its water-holding power in summer, for Sweet Peas must have a continuous supply, or growth will get checked during the first period of drought. Each trench should be laid up in the form of a ridge at the top to expose as much of the soil as possible to the action of frost and rain, which crumble down stubborn soils to the powdery condition favourable to growth. When trenching has been finished, sprinkle the soil equally all over the top with slaked lime. In old gardens that have been manured for a long series of years so that the soil is black with decaying vegetable

matter, it is advisable to throw out the soil from the trenches in autumn and leave it exposed to the sweetening influence of the elements. It should be replaced in February or March.

PLANTING.

In light and friable, well drained soils planting may be done during the third week of March. Where they are heavy and not in suitable condition for the operation, planting should be delayed till a more favourable time. It has been done with success as late as May. Cut a trench of suitable depth, with the spade, alongside the garden line. Turn the plants out of the pots, shake away the soil, disentangle the roots, set the plants alongside the straight edge of the furrow, place some of the finer soil over the roots, then some of the rougher material and tread it firmly. Fill in the rest of the soil, make it tidy and put some small twigs against the plants to keep them upright. Something should be done at this stage to frighten birds away, otherwise it may be found that they have ruined many of the plants at the first opportunity. Green and tender plants put out where nothing was growing before have a great fascination for the destructive sparrow. Even where sown outdoors, Sweet Peas in some gardens get regularly pinched by these marauders. Black cotton, elevated about 3ins. above the soil on pegs, on either side of the row, is usually very effective. Tinkling pieces of tin or glass, suspended on sticks, are sometimes employed.

AFTER-TREATMENT.

Early support must be given, whether that consists of bamboo rods, stakes or Simplicitas netting. Either one of these must be made secure against wind, for it must be remembered that the wind has a great power on the side of a row when the plants are 4ft. to 8ft. or more high, and just when they are at their best it may be. Most growers know the capabilities of their soil in giving height to Sweet Peas, and should make provision accordingly.

When sown in October, the plants will make a number of shoots more than is necessary or desirable, and these should be thinned to two or three of the best, the remainder being pinched, as well as others that may subsequently arise. This should be done when the shoots have grown to a height of 9ins. to 12ins. The selected shoots should be tied to the stakes, but not too tightly. Some room should be allowed for the thickening of the stems. If grown especially for exhibition and the show does not occur till late in the season, some growers pinch the shoots in June, or at least six to seven weeks before the exhibition, to retard them. Only one shoot should be taken up from this pinching, all the rest being stopped.

Hoe the ground once a week whether it seems to require this or not. Hoeing has other purposes to serve besides keeping down weeds. In dry weather it serves to conserve the moisture, and in moist weather it sweetens the soil, and at all times allows freer access of air to the roots. Mulching is sometimes advisable in prolonged drought, but it is best to keep the hoe going as long as possible. It is often necessary to give copious supplies of water during dry weather in order to keep the plants growing steadily and vigorously to get length to the flower-stem and size to the blooms, as well as colour.

If a sufficiency of farmyard manure was unobtainable at planting-time, it will be necessary to use artificial manures. These may consist of proprietary or general fertilisers. Potash and phosphates are suitable for Sweet Peas. Whatever is used, it should be applied in small doses and often. Clear soot water makes a good stimulant, but this should never be strong. Weak liquid manure is also a safe one to use, always well diluted. Overdoses of anything are harmful, or even ruinous in some cases. After every watering or application of manures that necessitates watering, the soil should be hoed the following day. During the evenings of warm days it proves refreshing to the plants if they are sprayed with water that has been exposed to the air for twenty-four hours.

VARIETIES TO GROW.

Out of the hundreds of varieties available it is difficult to make a selection of the best for any particular purpose and yet keep within the limits of space available. There may be differences of opinion, but for exhibition the following selection is in all respects worthy: Mrs. Tom Jones (blue), Renown (carmine), Royal Scot (cerise scarlet), Picture (deep cream pink), Charity (crimson), Warrior (dark maroon), Tangerine (orange), Gloriosa (orange scarlet), Jean Ireland (picotee edge on cream), Royal Purple (deep purple), Hawlmart Scarlet (bright scarlet), Edna May Improved (white), Felton Cream, Royal Salute (deep cerise), R. F. Felton (lavender), King Mauve (mauve), Annie Ireland (picotee edge on white), Hawlmart Pink (deep pink), Sunset (rose) and Barbara (salmon). If it is desired to limit the above number, the first twelve may be grown. All the above may be grown in the open garden, without shading, except Tangerine and Barbara, which are liable to burn in bright sunshine, and should be shaded. There are other distinctive colours in the Sweet Pea, but the above are among the most telling.

For garden decoration and cut flowers, light and pleasing, but distinct and telling colours should be selected. The following, among others, are distinct, free flowering and vigorous: Mrs. Tom Jones, Royal Salute, Royal Scot, Charity, Jean Ireland, Royal Purple, Picture, Hawlmart Scarlet, Market Pink (deep pink), Helen Pierce Spencer (marbled blue), Rosabelle (deep rose) and Constance Hinton (white). J. F.

The False Lupin.—A plant that has been designated "False Lupin" on account of its flowers resembling those of *Lupinus arboreus*, *Thermopsis montana* syn. *fabacea*, is a most attractive and useful plant for planting on the margins of shrubbery borders. It grows from 2ft. to 3ft. high. It should be planted where it can remain undisturbed and will quickly establish itself. Its palmate, downy leaves and numerous bright yellow pea-shaped blossoms in terminal clusters are very attractive in the shrubbery. It may also be planted in partial shade, such as under the shade of tall trees, and is a recommendable plant for London gardens. It flowers during late spring and early summer.

Horticulture and the Hospitals.—The South-gate Allotments Federation is organising a Fête in aid of the Royal Northern and Passmore Edwards Hospitals, which will be held in Broomfield Park, Palmers Green, N., on Saturday, September 16. The Horticultural Section promises to be most successful, no less than five challenge cups being available for competition. The exhibition fee is 1s., which includes admission to the Fête and entrance fee to any two classes. Particulars and entry forms are obtainable from the Hon. Secretary to the Horticultural Committee, Mr. J. T. Chilvers, 81, Selborne Road, N.14.

ORCHARD

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WOODLAND

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AUTUMN COLOUR IN THE SHRUBBERY

AS autumn progresses the herbaceous border tends to become "draggle-tailed" and the rock garden shews to small advantage, so that the principal effects must be looked for in wild garden and shrubbery. Even here, however, forethought must be used if really good results are to be obtained.

Colour among shrubs and trees at this season is obtainable in flower, fruits and foliage. Late-flowering shrubs are comparatively few in number but, fortunately, excellent in quality. During September and often in October the varieties of *Buddleia variabilis* with immense panicles of purple or almost violet pleasingly fragrant flowers with orange throats are, if not at their best, still brilliant. The best known varieties are *Veitchiana*, *magnifica* and *Wilsoni*. The first named is the first to flower and the palest in colour. Of the three, *magnifica* is the deepest in colour, the latest and has the largest panicles, but *var. superba*, less often seen, is later still and quite as large in panicle, these being a little "fatter" and more blunt ended than in *var. magnifica*. The Spanish or Rush Broom, *Spartium junceum*, often provides welcome golden colour in September, as do many of the *Ceanothuses*, particularly *C.C. azureus* and *americanus* and their hybrids, notably the beautiful *Gloire de Versailles*, perhaps the longest flowering of all. Four rather uncommon *Escallonias* provide useful autumn blossom, namely *E.E. exoniensis*, *organensis* and the two somewhat similar white varieties, *floribunda* and *montevideensis*. The late-flowering *Hydrangea paniculata*

or its all sterile-flowered and very distinct variety *grandiflora* is to be found in most shrubberies, but *Hydrangea arborescens grandiflora* is less well known though quite worthy. It really requires and well repays a little staking as otherwise the shoots prove too weak for the heavy flower heads which, especially in wet seasons, crowd towards the ground.

The abutilon-like forms of *Hibiscus syriacus* are genuine autumn bloomers. They have, however

fragrant. Not over hardy, it should be given a fairly sheltered position.

The Venetian Sumach or Smoke Bush, *Rhus Cotinus*, with its persistent fluffy inflorescences, is one of the ornaments of the autumn garden. The inflorescence, which is largely sterile, is pinkish at first, afterwards turning a smoky grey. It is exceedingly effective when massed.

Two *Magnolias* continue to produce blossoms until far into autumn and though there are never sufficient open at one time to make a display their exquisite chalice give dignity to the shrubbery. One species is the Swamp Bay *Magnolia glauca*, with deliciously fragrant flowers, gins, or so across, either pure white turning buff with age or creamy, also going off deeper in colour. This is a rather variable, more or less deciduous species with foliage glaucous and downy beneath. It attains, at last, the stature of a small tree. *Magnolia grandiflora*, the other species, sometimes called the Laurel Magnolia,



THE SMOKE PLANT (*RHUS COTINUS*) IN AUTUMN.

several drawbacks, such as the rather stodgy shape of the bushes and the not too interesting foliage, the unpleasing colouring of most of the varieties and above all their unwillingness to flower freely except after a warm and moderately dry summer. These defects notwithstanding, the white varieties at any rate are worth growing. Another purely autumn flowering shrub is that sometimes called the "Blue Spiraea" (*Caryopteris Mastacanthus*). The trusses of bloom are of a moderately deep but rather cloudy blue and the foliage is

a larger growing and evergreen and takes some years to produce blossom. The flowers are often as much as roins, across, however, and very fragrant. There are many varieties, of which perhaps the best is known as *gloriosa*, though the *Exmouth* variety (sometimes called *lanceolata* or *exoniensis*), figured in *THE GARDEN* for September 2, page 438, is very fine also. In the North this tree is generally grown against a south or west wall. It is hardy, but liable to be broken by falls of sticky snow.



THE AUTUMN BLOOMING HIBISCUS SYRIACUS.



FRUITS OF A HYBRID CHINESE BARBERRY OF THE WILSONÆ SECTION.



CLANOTHUS GLOIRE DE VERSAILLES WHICH FLOWERS FROM JULY UNTIL SEVERE FROST.

For the fronts of shrubberies the late and long-flowering Lead Plant, *Amorpha canescens*, is useful. Its panicles of purplish flowers are often a foot long. That quaint leguminous shrub *Indigofera Gerardiana* (like the hardy Fuchsias, it is only sub-shrubby in the North) produces its pea-like rosy purple flowers until well on in autumn and should not be overlooked when ordering. Mention of the hardy Fuchsias calls to mind their very special merits for our purpose. *F. macrostemma*, with several closely allied species or (probably) forms, such as *corallina*, *globosa* and *gracilis*, and the stouter but less free to flower *F. Riccartonii*, are the hardiest, but the beautiful rose and white hybrid, *Mme. Cornelison*, is worthy of trial.

Many of the varieties of *Veronica speciosa* flower well into autumn, including the beautiful crimson *Simon Delaux*, but these are hardy only in favoured localities. *Veronica angustifolia* with long racemes of white flowers is hardier and there are many similar, probably hybrid, forms which are also autumn-flowering. Short in the raceme, but of a glorious purple colour is the rather prostrate mongrel sort called Autumn Glory, which again crosses freely with *V. angustifolia* and others to produce useful autumn-flowering varieties.

Quite a number of Heaths flower at the "back end," these including the Cornish Heaths, *Erica vagans* (several varieties), the Cross-leaved, *E. Tetralix*, and varieties, *E. ciliaris* and its variety *Mawiana* and the hybrid between this species and *E. Tetralix* (*Watsoni*), as well as *E. Mackaibii*, which comes very near to *Tetralix*. The Irish Heaths, *Daboecia polifolia* also flower well in autumn, especially the loose-growing, lantern-flowered varieties usually listed as *D. p. var. globosa*.

The shrubby Cinquefoil, *Potentilla fruticosa* and its many varieties are useful for the fronts of shrubberies. The typical plant bears butter yellow flowers, but there are varieties with flowers of almost every shade from pure white to the typical colour. The *Romneyas* are, of course, excellent for autumn flowers, but they make but a comparatively poor show in such a season as the present. The water-loving Sweet Pepper, *Clethra alnifolia*, with its spicy fragrance and the similar but rather later flowering *C. tomentosa* are valuable as late-flowering shrubs.

Other late-flowering shrubs are, generally speaking, either not conspicuous—such as for example, *Clerodendron*, *Fatsia* and *Hamelis virginica*—or not reliable, such as the larger *Yuccas*, which flower but seldom and then not always in autumn. The garden hybrid Clematises provide, however, a feast of colour in early autumn if allowed to ramble on the branches of trees and shrubs.

Coloured fruits should play a larger part in garden decoration than they do at present. The Barberries alone have fruits of many sizes with great diversity of shape and a remarkable range of colour, varying from bright clear coral, through bright red to crimson, deep purple and black, some covered with white or purple bloom, some smooth and clear as the hips of the Dog Rose.

The Conion Barberry is one of the most effective tall species and the purple-leaved form seems equally as fruitful as the green, though with the former one misses the brilliant autumn foliage colour associated with the typical plant. *Berberis Thunbergii* has rather similar berries less freely produced, but the added glory of the autumn-tinted foliage more than compensates for this. In good soil in full sunlight this shrub is for a few weeks, before the fall of the leaf, easily the most beautiful thing in the choicest shrubbery. *Berberis polyantha* is especially effective when roped with berries, but now we come to the great group of intensely spiny Barberries from the "Roof of the World." These are all beautiful and distinct enough when side by side, but difficult to differentiate in an article. There are *Wilsonæ*, *subcaulata*, *brevipaniculata*, *Prattii*, *dictophylla* (a little of the *vulgaris* or *Thunbergii* appearance lurks in this), and *Stapanna*.

Berberis Darwinii and its hybrid with *B. empetrifolia*—*B. stenophylla*—are very beautiful when laden with their deep purple fruits but, unless cottoned, the birds soon clear them.

The Cotoneasters are largely grown for autumn effect, mainly of fruit, though *C. horizontalis* is worth growing for foliage colour alone. *C. microphylla* hides its berries with foliage when grown as a bush. It is at its best growing over a wall, but is more apt than most to become busy.

(To be concluded.)

THE INVALUABLE DELPHINIUM

Its Culture, Use, and a Selection of Varieties.

WHEREIN lies the admitted charm of the Delphinium? It has no particular beauty of foliage; it does not continue overlong in bloom, although it is true that by cutting out the central spike as it passes, the flowering period may be somewhat prolonged; it does not wreath itself in blossom like, let us say, *Lavatera Olbia*—indeed, under average cultivation the length of the flower-spike is but a small fraction of the total height of the plant. Wherein, then, lies its charm?

To the writer the perennial Larkspur in its best forms has two great claims to popularity. In the first place, its spiry, erect, yet not stolid habit of growth makes it invaluable for providing very necessary variety of outline either in the herbaceous border or among round-headed flowering shrubs. Secondly, it provides a wide range of blue shades, which, after midsummer, are all too scarce among hardy flowers.

To obtain Delphiniums at the best, pains must be taken with their culture. In a dry season on shallow, undercultivated soil the spikes will be distressingly short and crowded, and the plants themselves dwarfed and miserable. In a wet, draughty season there is always the bugbear *mildew* to contend with. Sort, sappy growth obviously conduces to mildew. It follows, then, that soil for Delphiniums should be cultivated as deeply as practicable and well enriched, but not excessively, as regards nitrogenous manures. Bone-meal and, on loose-textured soils, a little basic slag should be included. Two ounces to the square yard is a fair dressing of a "slag" containing 22 per cent. soluble phosphates. The soil should be quite settled and solid before planting takes place. Whatever precautions be taken, it will certainly be desirable to apply water during prolonged drought, but one really good soak and a mulch will under such favourable conditions go a long way.

Two-year plants, that is, those which have been established one year, generally give the best results, but three and four year stools should answer perfectly if the growths are thinned when six to nine inches high. Incidentally, such sucker growths make admirable cuttings for increasing stock. Whatever the precautions in the way of good cultivation, mildew will appear most seasons, and the conditions under which these plants are usually grown make spraying, whether wet or dry, a virtual impossibility. Some varieties are especially prone to mildew and should be avoided, however desirable they may appear in other ways. Needless to say, none such is included in the short

list of varieties which concludes these notes.

If Delphiniums seem called for in a draughty corner where mildew would be likely to make itself especially obnoxious, it is best to rely upon plants raised from seed, which have, in the nature of things, more vigour and so resist the attack of the fungus better. Raising Delphiniums from seed is an interesting process, and it is remarkable how many seedlings seem, to the amateur, better than standard named varieties. Many a novice



BRIGHT BLUE, WHITE CENTRED—DELPHINIUM COLONEL SIR WYNDHAM MURRAY.

has thought that in a few scores of plants he had an army of new sorts which would revolutionise everyone's ideas of the Delphinium. Alas! after propagation the swans turn out but very ordinary geese after all, and quite inferior to the named varieties they seemed so much to excel!

All this, however, detracts not at all from the value of these seedlings as border plants, especially when it is remembered that by purchasing or saving seed of some good variety, say, Rev. E. Lascelles, for instance, the bulk of the seedlings will closely resemble the parent as regards general colouring. A few rogues can, after all, be readily weeded out. Nor is it necessary in many cases to select them to colour, for the Delphinium has this merit—that considerable as is the colour range (and different flowers contain almost every shade of blue-purple, whether strong or diluted as well as almost pure blue, pink and white, "clashing" is unknown.

It has hitherto been assumed that the Delphinium is what is commonly called a "blue" flower, but there are, of course, sorts with flowers of a shade of dirty ivory and one with blue-white flowers (Moerheim). The ivory-white sorts are frankly unacceptable. Moerheim is better, though its flowers tend to become a washy lilac in wet weather.

Were it not so, however, it is very doubtful if we want a white Delphinium. There is, after all, no shortage of white flowers. Indeed, many gardens look "cold" because white is employed to excess. Of white shrubs the name is legion. Among herbaceous plants there is certainly no shortage. We get white in *Chrysanthemum maximum*, *Verbascum*, *Hollyhock*, *Galega*, *Phlox*, *Malva*, *Sidalcea*, *Campanula*, *Anthemis* and a host of other common plants beside Lilies, *Asphodel* and *St. Bruno's Lily*. No! Of the two outstanding virtues of the Delphinium one is missing in the white sorts.

The propagation of named Delphiniums consists in dividing up the clumps periodically and in striking cuttings taken—detached with a trace of "heel"—from the stools in spring. These latter, which usually make the best plants, should be about six inches long and should be inserted in gritty soil and kept just sufficiently close to prevent flagging until rooted. A little bottom heat is beneficial and tends to hurry up what is otherwise rather a tedious process, but it must be slight or the constitution of the young plant will be enfeebled. Seed may be sown either as soon as it is ripe or about the shortest day. Ordinary seed compost is suitable, but boxes or pans are preferable to prepared beds in frames, since slugs have a great predilection for Larkspurs (both annual and perennial). The seedlings grow quickly and should be pricked out before they become drawn and weakly. They may go into their permanent quarters in autumn and should flower gloriously the following summer.

Slugs by no means confine their attention to the tiny seedlings. In old slug-infested gardens they not infrequently, by repeated grazings, entirely destroy full grown plants. This pest must certainly be kept in check if Delphiniums are to be a success. A temporary but often successful measure is to sprinkle soot, or soot and lime, around the crowns from early spring until the growths have lengthened considerably, but the elimination of such slug-harbours as box edgings and dressing the land when bare with an approved soil fumigant is at once more effectual and permanent. No! should the use of a large pair of scissors after a shower be considered unworthy.

From so many varieties it is not easy to make a selection, but the following, if not "the best," are all excellent: Rev. E. Lascelles, royal blue, white centred, 5½ ft.; The Alake, deep violet blue, 5 ft.; Queen Wilhelmina, a splendid pale blue, 4 ft.; Persimmon, "Belladonna" colour, 3½ ft.; Mrs. Thompson, clear blue, 4½ ft.; J. S. Brunton, almost sky blue, light and elegant and good for cut flower, 4 ft.; Lizzie van Veen, Cambridge blue, 6 ft.; King of Delphiniums, rich blue and plum colour, white eye, 5 ft.; Henri Moisson, deep purple, black centre, 4 ft.; Colonel Sir Wyndham Murray, bright blue, white centred, 6 ft.; Lorenzo de Medici, a remarkable variety, soft blue, pink shaded, 5 ft.; Statuaria Rude, pale heliotropic, magnificent, 6 ft.

Of recent novelties the best is unquestionably the tall and handsome Milliecut Blackmore, a pleasing shade of blue-naive, black centred. For nearer the front of the border and for grouping alone in suitable positions, the old Delphinium *Belladonna* is still unsurpassed. The plant called *Belladonna semi-plena* is also useful for the same purpose, so are Persimmon, already referred to, and Capri, of almost sky-blue colouring.

THE MUCH-ABUSED CONIFER

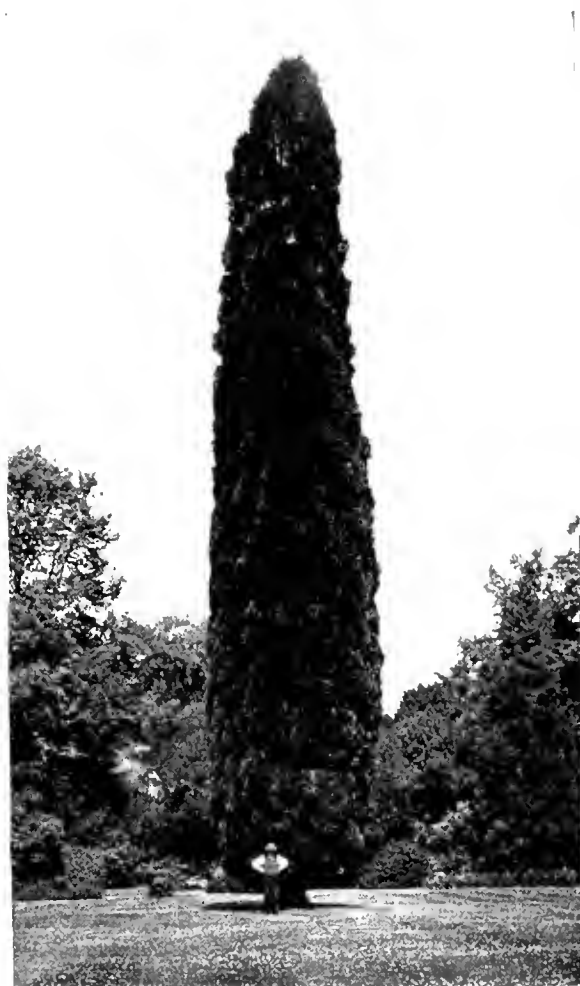
IN the following notes only species and varieties will be mentioned which are suitable for gardens of moderate size, say not exceeding three or four acres in extent. Some, of course, are suitable for gardens even smaller in size. The conclusions arrived at, representing as they do the writer's personal experience, mainly on a light sandy loam overlying gravel and practically lime-free in a Midland garden, are necessarily imperfect. A writer with experience of the south-west of England or the corresponding corner of Scotland, would no doubt have different ideas as to the relative values of species, but the climate and soil of this Midland garden may be taken as fairly typical of very extensive areas in South Britain.

In considering the various genera of coniferous trees, we will commence with the Cupresses, not because they are especially beautiful or interesting but because they are almost universally planted in small gardens to the exclusion of many really beautiful trees. The Cypress family is divided into two great divisions, the Cupresses proper and the so-called White Cedars (*Chamaecyparis*), which includes Lawson's Cypress (*Cupressus Lawsoniana*) in all its many forms, *C. obtusa*, *C. pisifera* and *C. nootkatensis*, each with several interesting varieties.

Cupressus Lawsoniana in anything approaching its typical form is a rather funereal tree of no special beauty of habit or colour, but some of the varieties are certainly beautiful. The very columnar and rather glaucous *Fraseri* is one. *C. L. Alluni* is rather bluer but less elegant of habit, while *Triomphe de Boskoop* is bluest of all, but is in habit very similar to the typical "Lawson." Less often seen than any of these, closely fastigate, singularly rigid of habit and small foliaged, is the variety *Wisselii*, with rich deep green foliage. This is a very distinct and handsome, though by no means solid looking tree. The much planted *ere ta-viridis* is hardly satisfactory in the Midlands

or North as snow is apt to mar its beauty. Elsewhere it needs using with discretion or its rather "Noah's Ark" formality may ruin the garden picture. There are variegated and golden colour variations of this, only mentioned as best avoided. *Cupressus Lawsoniana lutea* is an admirable close-growing golden form, perhaps a little more columnar in habit than the typical plant. *Stewarti* has paler yellow foliage and a more spreading habit. It is faster growing than *lutea* and makes a handsome tree. For those enamoured of variegation, the variety *albo-variegata* is recommendable.

Cupressus obtusa is also a variable species and one not seen in gardens as frequently as it might be. The typical form is quite good, while there are fine golden forms, such as *elegans* (not often seen), *Crippsii* and *densa aurea*, the last two somewhat alike. *Lycopodioides* and *tetragona aurea* are quaint and beautiful dwarf forms suitable for rockery or front of the shrubbery border. There are several miniature *Retinosporas* which are in fact only forms of *C. obtusa* which have failed to change their "baby coat" for the adult sail-like foliage. *Cupressus pisifera* is a broad-based shrub which, with its useful golden form, has been planted far too freely the last fifty years. It takes up a good deal of ground as it is much more spreading in habit than the Lawsons. Varieties of this are those so-called *Retinosporas plumosa*,



THE FINE INCENSE CEDAR *LIBOCEDRUS DECURRENS* AT FROGMORE.

plumosa aurea and *squarrosa*, the latter with pretty blue-grey foliage, but all with the spreading habit of the typical plant.

The Nootka Sound Cypress (*C. nootkatensis*), often still listed as *Thuyopsis borealis* is a more gracious and shapely tree than *C. Lawsoniana*. There is a very pleasing colour form in which the young foliage is pale gold and another (*pendula*) in which the branchlets droop from the main branches, giving the tree a most distinct and noteworthy appearance.

The true Cupresses are not often seen in small or suburban gardens. They are emphatically trees for the Midlands and South, as even the hardiest will not withstand the rigours of our Northern winters. Their lack of popularity is largely due, however, to the fact that except as small trees from pots, they transplant badly. To counterbalance this, however, they for the most part grow rapidly and are far more beautiful than the White Cedars. The commonest species is *C. macrocarpa*, much used in Southern England as a hedge plant and wind screen. The best and most upright form of this is called *fastigiata* and this form has a beautiful soft yellow counterpart called *macrocarpa lutea*. Somewhat similar to *macrocarpa* but glaucous in tint is *C. sempervirens*, the Italian Cypress, of which there is a very fastigate form (*fastigiata*), and a more spreading one (*horizontalis*). This seems quite hardy in the South Midlands once established, but a severe winter is apt to play havoc with young trees. Hardier than the foregoing, similar in colouring—perhaps a little brighter though—and more spreading is *C. arizonica*.

For open spaces as specimen trees there is nothing to beat the stately Incense Cedar, *Libocedrus*



A MAGNIFICENT CEDAR.

decurrens, often listed as *Thuja gigantea* in nurseries, though *Thuja plicata* (Lobbi), a quite different and inferior tree, is often sold as *T. gigantea* also. The effect produced by the Incense Cedar is often aimed at by those who, for want of knowledge, plant *Cupressus Lawsoniana erecta-viridis*, which is not really satisfactory when adult.

There are many varieties of the Arbor-vite, *Thuja occidentalis*, some of which are valuable for the browns and russets of their "winter dress." Variety *lutea* is a very good one in this respect. Var. *Vervaneana* is a pleasing garden pyramidal conifer which turns brown in winter. Unfortunately it loses its colour on some soils. *Thuja orientalis* (Chinese Arbor-vite) is not too hardy, so should not be used in Northern gardens. In its better and more compact form it is a handsome tree. *Thuja plicata* is a distinct and useful shrub though, as already stated, a poor substitute for the Incense Cedar. The best form is the tall columnar one known as var. *pyramidalis*.

The Cedar needs space for development and time for growth to be effective. Consequently of the

three species only the Deodar (*Cedrus deodora*), which is beautiful as a young tree, is nowadays often planted. There are several varieties of Deodar, but the typical plant from seed is likely to make the handsomest tree. The magnificent Cedar of Lebanon needs no description, but should be more often planted. So should the Atlas Cedar (*C. atlantica*) and its beautiful blue-grey variety *C. a. glauca*. Most upright growing of Cedars, *C. atlantica*, may be used to form a little grove to accentuate a hill-top or to form a screen.

PANDANUS-LEAVED PLANTS

Under the above title the writer discusses the merits and uses of such plants as the Pampas Grass, Yuccas, Torch Lilies, etc.

As seen in many gardens, the Pampas Grass is a pitiable object, not because it is badly grown, but because it is ill-placed. For this reason many people of taste and discrimination are now leaving it out of their garden scheme entirely. If they have any extent of ground at disposal, this is a mistake.

Plants of the formal, certainly exotic and probably somewhat tropical appearance of the Pampas Grass look best grouped together. It is a good idea to devote the borders



SMALL BUT DISTINCT AND BEAUTIFUL, YUCCA ANGUSTIFOLIA.



A STately NEW TORCH LILY—KNIPHOFIA C. M. PRICHARD.

enclosing a grassy vista almost entirely to the culture of such plants. The Torch Lilies will make there a show of brilliant, but pleasing colour in the summer months, reinforced, it may be, with creamy *Yucca filamentosa* and *flaccida* at least may be relied upon to flower year by year.

Later in the year the various pink and snow white Pampas plumes produce an entirely different but quite beautiful effect and even in winter, at least in our warmer counties, the various but harmonising foliage gives pleasure to the eye. Further north it is necessary to tie up the leaves of all three genera to prevent snow-broth from reaching the crowns and, by alternately freezing and thawing, destroying the plants. Even here, however, there is great practical advantage in having all the plants together. The front of such borders is an excellent place to display the late-flowering, all but scarlet, *Schizostylis coccinea*.

Springtime need not see such borders entirely bare of colour, for spring-flowering bulbs may readily be introduced towards the front. From the point of view of effect it is better to group one or two classes of plants at each season in each separate section of the garden, since vistas which are more or less a repetition one of another, even though not "spotty" in themselves—which they are apt to be—become, after a while, wearisome to traverse.

White is easily supplied when the Torch Lilies flower by the use of various White Lilies, such as the beautiful White Martagon or even the Madonna Lily (*L. candidum*), but blue is not readily introduced. The Delphinium is the time-honoured plant for the purpose but, despite its aspiring habit, its foliage is scarcely suitable for such a position. Some of the tall-growing but short-hyed *Echinus* would be more suitable. Soft yellow may be introduced into the background by employing that stately Mullein Harkness's Hybrid; but if the brilliant colouring of the *Kniphofias* is properly led up to few will find the effect need softening.

There are now many excellent varieties of Pampas Grass which are immense improvements on the too often dirty-coloured seedling forms, sold simply as "*Cyperium argenteum*." One of the earliest to flower, rather erect of habit and dark of stem and foliage is the rosy *Rendatleri*. An early and very beautiful white sort is called *Bertini*, while for later in the autumn there are *Rene des rouges*, *Rene des roses* and the giant silvery-plumed *Monstrosa*.

The pink forms do not long retain their colour, unfortunately, so that the silvery-white ones should be more freely planted. In Northern gardens, the late forms are spoiled by frost before they can display their beauty, so should be omitted. Indeed in the North it might be well to combine one's attention to the very ornamental *Arundo*

conspicua, to the casual eye very like the true Pampas Grass and much earlier to flower.

The list of Torch Lilies grows longer year by year and some of the newer introductions are extraordinarily beautiful. An especially beautiful new yellow sort with towering spikes is called C. M. Prichard. Yellow sorts may now, in fact, be obtained to match in stature such red giants of the family as *Kniphofia aloides* (U'varia) nobilis, which in congenial situation will reach 8 ft. to the top of the spikes. T. a. grandis is similar. T. aloides præcox is free-flowering and very early, often commencing to flower in May, but it lacks the dignity of the later sorts.

Some of the *Kniphofia* species are very interesting and have especially beautiful foliage. There is, for instance, the sub-shrubby group, of which the species form a distinct permanent stem as do most Yuccas. The best known of this section is *K. caulescens*, a happily named plant as this species produces spikes which do truly resemble the colouring of a poker heated beyond redness. As the flowers age, moreover, they change to a greenish yellow colour not unlike the straw-yellow of highly heated steel. The colouring of this plant is too harsh for the mixed flower border and even in the Torch Lily walk it is well to associate it with the soft yellow species and varieties. The glaucous foliage is, however, very distinct and beautiful.

K. Northie is nearly related to *caulescens* and has the same habit of growth, but its flowers are pale yellow tinged with red at the tips. *K. Tysoni* is another belonging to the same section, of rather less harsh colouring than *caulescens* and of stouter, more robust habit. Its only questionable point is its comparative hardiness.

Of the hybrids, the giant yellow forms are most interesting as being more recently obtained. Such are Star of Baden-Baden, a giant with straw-yellow spikes; Lachesis, deep yellow, less stately but more prolific; the orange-yellow Ophir and the magnificent Obelsk, with golden-yellow spikes. The brilliant John Benary is a well known crimson and deservedly esteemed. Many of the apricot and coral shaded hybrids have *Leichtlini* or *pauciflora* blood and are so less hardy than the sorts already mentioned. They are, none the less, beautiful for the fronts of borders. Where dwarf but hardy forms are wanted there are *K. Macowanii* and its taller hybrid *corallina*, also the rather coarse and "stubby" *rufa*.

The shrubby Yuccas are hardy only in the South and South Midlands of England, except near the sea coast, but *Y. filamentosa* and the closely related *Y. flaccida* seem quite hardy everywhere. The handsomest species, *Y. Whipplei*, is also the most tender, but the magnificent if rarely flowering *Y. gloriosa*, of which there are at least three distinct forms is hardy even in the North if snow and winter rain be kept from the crowns. Hardier still, but also requiring protection for the crowns in the North, is *Y. recurvifolia* which, almost as handsome, flowers far more frequently. The miniature *Y. angustifolia* seems about as hardy as *Y. gloriosa*. Its flowers are more open and less drooping than those of other species and the leaves are long and extremely narrow.

MILGANDER

FORTHCOMING EVENTS.

September 19—Fortnightly Meeting of the Royal Horticultural Society.

September 20—Hertford Horticultural Society's Meeting.

September 21—National Rose Society's Autumn Show to be held at the Royal Horticultural Society's Hall.

September 23—Paisley Florists' Society's Show.

GLADIOLI AND HARDY FRUITS AT VINCENT SQUARE.

GLADIOLI again figured largely at Vincent Square, and on September 5 Messrs. Kelway and Son had a very fine exhibit of the best varieties. Most interest seemed to be centred in the sorts of brilliant colouring, and these certainly were grateful to the eye during the dull, sunless weather. The principal sorts were Colossal, J. W. Kelway, Star of Langport, Sir H. Talbot, J. L. Clucas and Nonpariel. The *Primulinus* hybrids are becoming very popular with exhibitors, and some exceedingly graceful varieties were shown by such growers as Messrs. Lowe and Gibson, Messrs. R. H. Bath and Mr. A. Edwards. The last named is a fresh exhibitor at the hall, and

hybrid tall *Lobelias*. Mr. F. G. Wood had a useful new Golden Rod in *Solidago* Ashstead Golden Spray. It is a fortnight earlier than Golden Wings, and has large branching heads of yellow flowers.

Suttons filled a large floor space with an enormous quantity of China Asters delightfully arranged. They had many colour varieties of Giant Comet, Giant French, Ostrich Plume, Mammoth and Victoria types, and also arranged large bowls of the highly decorative single-flowered varieties.

Shrubs were well represented in an interesting exhibit by Messrs. J. Cheal and Sons, who had various fruiting Crabs, shrubby Veronicas and



THE SOMEWHAT UNCOMMON COLLETIA SPINOSA WAS SHEWN IN GOOD FLOWER.

he arranged a very charming collection. The most attractive of the *Primulinus* varieties were Orange Brilliant, Yellow Queen, Valuta, J. P. Roen, Salmonea and Alice Tiplady. The finest Gladioli spikes were those of such sorts as Red Emperor, White Giant, Yellow Hammer and Pink Perfection in the exhibit by Mr. W. F. Gullick, while the collection of Dutch varieties by Mr. K. Velthuys was especially effective. The Foremarke Cup was awarded to Messrs. Lowe and Gibson for an interesting collection of spikes.

Mr. Sidney Morris showed a good selection of the *Monthrotias* in which he specialises. The outstanding variety was His Majesty, which has large, well shaped flowers of yellow colour heavily edged with dull crimson. He had other named sorts and a fascinating vase of seedlings.

The largest exhibit in the hall was that of herbaceous Phloxes and Delphiniums by Mr. H. J. Jones, and it was of such high quality and artistic value that he was awarded another gold medal. Border flowers generally were very interesting. In several collections there were vases of *Achillea Millefolium* Cerise Queen, of brilliant colouring. *Heleniums* were freely shewn, and prominent in a general collection by Messrs. B. Lathams, Limited, there were several valuable

Tamarix in flower, Maples of gorgeous foliage, the brilliant and curiously shaped fruits of *Euonymus latifolius* and some small pot plants of *Myrtus Luma* (*Eugenia apiculata*) profusely flowered. In the milder parts of the country this evergreen is quite hardy, and a glorious sight when smothered with its snow white flowers. Several Crabs, notably John Downie, were shewn by Mr. Charles Turner.

Several well-flowered sprays of that singular South American shrub *Colletia spinosa* were on view. Practically leafless, it bears its flowers on the spiny branchlets. The triangular-spined *C. cruciata* is a form of this species.

Roses were shewn in fair quantity by several growers, but there was no novelty of outstanding merit, nor is it to be expected at this season. Carnations were also very beautiful and of high quality. Clematises in a number of varieties and as plants in quite small pots bearing several flowers each were set up by Messrs. L. R. Russell, Limited, who also had brilliantly berried bushes of Firethorns and a most interesting collection of Bromeliads.

In view of the annual exhibition of the National Dahlia Society the next day, several growers, including the Dutch Dahlia Society, had fine

displays which will be found noted in the report of the Dahlia Society's Show.

Fruit was better represented than of late, and many visitors greatly admired the corner group of pot trees bearing bountiful crops of Pears and Plums. The perfectly trained fan-shaped Plums in particular evoked admiration. The chief varieties were Allgrove's Superb, upon which, after trial at Wisley, the Council confirmed the award of merit provisionally bestowed some time back. Jefferson, Althon's Gage and McLaughlan's Gage were also admirable, both on the trees and as generous dishes of gathered fruits in this fine exhibit by Mr. J. C. Allgrove. Williams's Pears and several Apples were also represented by fruits of excellent appearance.

Messrs. Daniel Brothers again had mounds of fruit and branches literally festooned with bunches of their September Black Currant. Not only is it a very late variety, but the flavour is all that could be desired, and the individual berries are as large as small Gooseberries. Mr. J. J. Kettle of Violet fame also shewed fruiting canes of his late Raspberry Lloyd George.

The Fruit Committee had several novelties to consider. Mr. T. Pateman brought forward a dish of a late Black Currant which he found in a Midland garden. It is a large well coloured berry of good quality, and the Committee recommended that it and Daniel's September be tried at Wisley next year. Messrs. Laxton Brothers brought several of their new fruits. Pear Laxton's Cropper has appearance to recommend it. It is a shapely fruit of medium size and pale yellow colour prettily flushed with rose on the sunny

side. The flavour is pleasant but not first class, but in view of its freedom it should be a good market variety. It was raised from Marguerite Marillat and Doyenné d'Été. Laxton's Supreme Plum is the result of a cross between Demaison's Superb and Victoria, and in appearance is a small pale red Victoria of good dessert quality.

NEW AND RARE PLANTS.

Centaurea Cyanus Silver Queen.—This is a silvery white variety of the well known Blue Cornflower and, no doubt, will soon become equally as popular as that elegant flower. Award of merit to Messrs. Barr and Sons.

Gladiolus Rt. Hon. Countess Beatty.—One of the most beautiful of the crimson-blotched varieties. It is a large spike of perfectly disposed widely expanded blooms. The lower segment has a large vivid crimson-lake blotch and the remainder of the flower is pure white. Award of merit to Messrs. Kelway and Son.

Primula Mooreana Improved.—In his book on the "Rock Garden" the late Mr. Reginald Farrer wrote that Primula Mooreana was quite the best of the varieties grown in gardens as Primula capitata, and with this there must be general agreement. The plant on shew was a distinct improvement, and carried numerous spikes of beautiful blue flowers on pulverulent stems. Award of merit to Lady Aberconway.

Streptocarpus Princess Mary.—Of late years there has been a great improvement in the large-flowered Streptocarpus hybrids. The colours are decidedly better, the blooms have more substance

and, what is perhaps most important, they are much more floriferous. Princess Mary is a splendid specimen of these improved giant Streptocarpuses. The rose-shaded flowers have a well marked straw-coloured throat. Award of merit to Messrs. R. and G. Cuthbert.

NATIONAL DAHLIA SOCIETY'S SHOW

THE National Dahlia Society have reason to be satisfied with their first independent show of recent years. In the old days this special flower society had big shows at the Crystal Palace and elsewhere, but of late, in common with so many other societies, it has had to be content with a smaller sphere. Although the sunless weather of the last few days was all against Dahlias opening their flowers freely, there were plenty of blooms of all types at Vincent Square on September 6 last, and their quality was decidedly the highest at any show. Such a wealth of gorgeous colour has rarely been seen in any flowers. Present-day Dahlias have gone very far from the original species which were introduced from Mexico in 1798, and it was exceedingly interesting to see the bunches of Dahlia Merckii, D. variabilis and D. coccinea which the Director of the Royal Gardens, Kew, sent to the Show. The influence of the soft lilac colour of D. Merckii was very evident in several of the new sorts, particularly



THE AMERICAN SPINDLE-TREE EUONYMUS LATIFOLIUS WITH BRIGHT ORANGE SEEDS AND CORAL BERRIES.



FINEST OF THE CAPITATA PRIMULAS, MOOREANA IMPROVED. FLOWERS VIOLET PURPLE.

in Mr. H. C. Dresselhuys, which was one of the selected varieties. In the magnificent collection from the Dutch Dahlia Society there was a most delightful bowl of it, and it harmonised well with the darker blooms of Prince of Wales and King Harold. This noteworthy exhibit of their newest sorts was the joint contribution of the chief Dutch raisers, and illustrated a number of other very handsome varieties of the large decorative type. Apple Blossom and Menr. Ballego were especially charming. Along the front of this imposing group, which received the Society's gold medal and won the unstinted admiration of all, there were several free-flowering sorts in quantity. Little Jewel and Chamois Rose were very graceful representatives of these small, dainty flowers.

The largest home-grown exhibit of Dahlias was set up by Mr. J. T. West, and it represented especially good varieties of the Decorative, Collarette and Single types. Of the first named, Victorine, Nancy, Blanche and the Prince were very prominent; while Judith and White Fox of the Collarettes, and Oberon, Dazzle and Malcolm among the singles were greatly admired in this gold medal collection.

Naturally, it was the dainty little Pompons that attracted most attention in the adjoining group by Mr. Charles Turner, as the Slough firm, although having a splendid general collection, have rather specialised in Pompons for many years. Messrs. J. Cheal and Sons are also very "strong" in Pompons, and such sorts as Phyllis, Daisy, Electra, Rufus, Little Beeswing and Garlie were very fascinating in both collections. Cactus varieties were especially noteworthy in an exhibit by Messrs. Carter, Page and Co., and of these Royal Sussex, Ivory White, Areturus and Paragon were perhaps the very best. Among their large Decorative sorts we admired Beauty, Ambrosa, Jupiter and Paul Crampel, which is almost identically the colour of the popular bedding "Geranium" of that name.

In the competitive classes Messrs. J. Stredwick and Sons took chief honours with the Cactus varieties; their sets of such sorts as Thos. Want, Valour, Supreme, Washington, British Lion and Sunbeam were well high perfect.

Mr. S. Mortimer still grows the Show and Fancy Dahlias admirably, and many visitors admired his superb first prize collections of Prince Bismarck, Standard, Arthur Rawling, Wm. Powell, Tom Jones and other sorts in the two classes. Messrs. William Treseder, Limited, were second in each case, and they won first prizes in several other classes, notably six blooms of Miss Stredwick Cactus Dahlias, six of the Show variety Arthur Harrison, six varieties each of Peony-flowered, Decorative and Collarette types. The large Collarette class was won by Messrs. Cheal and Son, who had splendid blooms of Cadet, Ustance, Diadem, Bonfire and such sorts. In this class Crimson Queen, Lilian and Peronne were also well shown. Messrs. Cheal and Sons were also first with admirable collections of Pompons, Singles, Garden Cactus and small Peony-flowered varieties, though the very best Pompons were in the amateurs' classes, where the first prizes were awarded to Mr. H. Brown and Mr. A. E. Barnes for wonderfully fine blooms.

NEW DAHLIAS.

Adorable.—This is a large, full-shaped Decorative variety. The broad orange-buff petals are tipped with white.

Arthur Bouquet. A robust-growing Decorative bloom borne on long, stout stems. The colour is a pleasing, warm orange-yellow.

Edith Page. A large-sized exhibition Cactus variety of star shape. The long petals are rolled, and their soft yellow colour is delicately flushed



STAR DAHLIA DORKING STAR.



THE RATHER COSMOS-LIKE SPECIES, D. MERCKII.



LADY GREER (PEONY-FLOWERED) AND LEONIE COBB (MINIATURE PEONY-FLOWERED.)

with pale coral pink when mature, so that it becomes a yellow-centred bloom.

Nectar.—This bright yellow Decorative variety of large size is of great merit.

Shepherdess.—A large, pure white Decorative variety of splendid form and borne on long, stout stalks. The above varieties were all shewn by Messrs. J. Stredwick and Son.

Dorking Star.—A pretty bloom of the highly decorative Star type. It is of silvery mauve colour with crimson rays in the centre.

Lady Greer.—This is a medium-sized Peony-flowered variety of fascinating rosy mauve colour.

Leonie Cobb.—A compactly formed small Peony-flowered bloom. The double row of rounded petals are of rosy-mauve colour, and the centre of the flower is dusted with golden yellow. This and the two previous varieties were shewn by Messrs. J. Cheal and Sons.

Protest.—A large Decorative variety of perfect form, borne on very long, stout stalks. The colour is an attractive shade of rosy mauve which is lighter at the tips of the florets. Shewn by the Central Gardens Supplies Company.

Crimson Glow.—This is a very beautiful small Peony-flowered bloom of vivid crimson shading. The petals are slightly incurved at the tips.

Marcella.—A dainty little Peony-flowered bloom of bright rose pink colouring.

Sophire.—A good white star-shaped small Peony-flowered variety.

Warrior.—This is a brilliant small Peony-flowered bloom of flattish shape and velvety crimson colour which is rather paler in the centre.

Zena.—A small yellow Decorative variety which is tipped with bronze. This and the four previous varieties were shewn by Messrs. J. Burrell and Co.

Border Perfection.—A handsome rich crimson-coloured, large Decorative bloom carried well above the foliage on stout stalks. This and the following varieties were shewn by members of the Dutch Dahlia Society.

Flambeau.—A large Decorative variety of bright brick red colouring.

Guineeltji.—This is a small Decorative variety of mauve colouring. It is almost a large Pompon in character, and seems to be very free flowering.

Jubilee.—This was perhaps the most uncommon-coloured variety in the Show. It is a good medium size bloom of the Decorative type, though the incurving narrow petals give it somewhat a Cactus appearance. It is beautifully shaded with lilac.

Mr. Dresselhuys.—A medium-sized Decorative variety of most beautiful rosy lilac shade which is paler at the tips of the petals.

Nelly.—The small, compact, rich crimson blooms of Decorative type are borne on almost disproportionately long stalks, though the variety would probably be ornamental in the flower border.

Misses G. Wurflein.—A very handsome, large Decorative variety of perfect shape. The colour is rich claret-crimson shaded velvety maroon in the centre of the flower.

Oranje Boven.—A beautiful orange-apricot coloured, large Decorative variety.

Prince of Wales.—Another large Decorative variety of similar shape but buff-orange colouring.

Richard Henckeroth.—This is a large Decorative variety of vivid scarlet colour.

Wake Up.—A white-tipped ruby-crimson Decorative variety of similar shape to the old variety Rosy Morn that was used for bedding-out purposes many years ago.

Zhr G. van Tebs.—A white Cactus variety which has broad petals and appears to have considerable garden value.

SOME IMPRESSIONS OF THE INTERNATIONAL SHOW AT GLASGOW

WHAT the Glasgow Corporation puts its hands to it does with the might of determination, and success seems to follow all its enterprises. The magnificent and states exhibition of flowers and fruit held in the Kelvin Hall from August 30 to September 2 was the joint production of the Corporation and the Glasgow and West of Scotland Horticultural Society, but it was also recognised in a very practical manner by the headquarters of horticulture—Lord Lambourne, the Rev. Mr. Wilks and Mr. Dykes all being present with powers to present R.H.S. honours to worthy exhibits. Kelvin Hall makes an ideal venue for a show of this sort, spaciousness and good roof lighting contributing comfort and convenience alike to exhibitor and spectator, and seldom has this country seen a more magnificent floral spectacle than that provided under such amenable conditions. Undoubtedly the most prominent feature was the informative and eye-satisfying display of the Corporation itself. For over roof of the central avenue the space was converted into a veritable botanical garden. Two extensive designs were constructed in the centre, the larger being devoted to Tree Ferns, Palms and exotic plants; the smaller built up as a rockery, from the middle of which a multitude of miniature water-spouts fed a tiny lake, the whole lit up in the evening with cleverly placed coloured lights. Banked up at either side of these groups were borders of economic and decorative plants, including many kinds of utility shrubs from tropical countries.

The remainder of the floor space of the central hall was devoted to competitive exhibits of greenhouse and stove plants, of which the finest example was shewn by Messrs. Cypher of Cheltenham, who gained first prize and the President's Cup, presented by Sir John Reid.

Ranged along the sides of this portion of the central hall were exhibits by the well known firms. Here Messrs. Sutton of Reading shewed the possibility of staging a multitude of vegetables, fruit and flowers in perfect taste as regards colour blending, the floral background comprising large vases of Gladioli and Lilies, while little groups of well chosen flowers relieved the solid array of excellently grown vegetables and fruit in the foreground.

On the opposite side, Messrs. Dobbie of Edinburgh made a flower show by themselves, a range of exhibits seldom, if ever, exceeded by a single firm at any show. A staging run of 175ft. had been used to the utmost advantage and included immense banks of Roses, Dahlias, Chrysanthemums, Phloxes, Antirrhinums, Begonias, Fuchsias and Pelargoniums, both Regal and Zonal. The firm's new Roses, Mrs. Frank J. Usher, deep yellow, flushed carmine; Lady Elphinstone, apricot; and Vanity Fair, salmon yellow, were well shewn, and another notable flower was Begonia narcissiflora, with quite a frilled trumpet, instead of the usual central row of petals. Pansies, too, were here in perfection, as they can only be grown in Scotland. Terminating this long run of staging was a group of the famous Dobbie Potatoes, three new varieties being shewn, Di Vernon, a first early, immune; Katie Glover, a new pink-eyed second early; and Crusader, a grand main crop, yielding many tubers of moderate size and of high cooking quality.

Perpetual-flowering Carnations made a brave show staged by Mr. Engleman, his newer sorts, Laddie, Tarzan and Topsy being in excellent form. The last named is a glorious deep crimson and an

excellent vase flower. Messrs. Allwood, too, had a large exhibit, including the ever-flowering, bright crimson-scarlet Carnation, Edward Allwood, Marion Wilson, maize with scarlet flake, and Wivelsfield Apricot, were also prominent, and the well known Allwoodii Pinks made a good display. In spite of the late season, Messrs. Blackmore and Langdon had a fine range of Delphiniums, secondary spikes doubtless, and the different tones of blue threw up the warm and glowing colours of a choice lot of double Begonias which were staged in the front of their exhibit.

Orchids were well represented by groups from Messrs. Charlesworth and Co. of Hayward's Heath,



GLADIOLUS PRIMULINUS GOLD DROP, SHAWN BY MESSRS. LOWE AND GIBSON.

Gladioli were an important feature of the Show.

Messrs. Sanders of St. Albans and Mr. D. McLeod of Chorlton, Manchester. Apart from the well grown exhibits of Gladioli shown by Messrs. Ryder of St. Albans and other firms who used them as specimen vase plants, one was pleased to see the glorious spikes of these flowers shewn in competition by Messrs. Mair of Prestwick and Mr. Airdrie of Dumfries. The Scottish climate suits the Gladiolus very well and we have seldom seen flowers in such magnificence of size and colour as these two exhibitors put up. Messrs. Lowe and Gibson of Crawley Down also had a collection of choice and rare Gladioli, in which they seem to specialise, their flowers including some of the ruffled type which has taken such a hold of the American flower-loving public. Particularly attractive in this exhibit were the vases of beautiful Gladioli produced from seed sown in February of this year.

Sweet Peas were, naturally, in great force as the season in Scotland has been suitable for strong growth and late flowering. We were pleased to see

a beautiful group staged by the time-honoured firm of Eckford of Weir, who, we hear, are again making great preparations for raising new varieties. The mass of colour supplied by these flowers came however from the competitive classes which were numerous and keenly contested.

It would be an endless task to notice even briefly all the individual exhibits in such an exhibition, but a few notes jotted at random may be worth chronicling. In Messrs. Forbes' stand, for instance, there were examples of the quaint inflorescence of *Poterium obtusum* among an admirable group of hardy plants, while on the Donard Nursery stage, among a representative lot of flowering shrubs and dwarf conifers, there were several hybrid forms of *Dierama pulcherrima* shewn under numbers, considerably deeper in colour than the ordinary form. Here, too, was *Eucryphia pinnatifolia*, seldom seen at flower shows and not quite hardy in these latitudes.

The Glasgow firm of Messrs. Austin and McAJan placed a very important group of conifers among which the steel blue of *Abies pungens glauca*, Koster's variety, rose prominently. In another exhibit they displayed vegetables and cut fruit, backed by tall vases of Gladioli, Perpetual Carnations, Lilies and Asters. Fruit trees in pots were capitally staged by Messrs. Learmont, Hunter and King of Dumfries, the Apples being in prime condition under good cultivation. It is interesting to record that Messrs. Samsons, Limited, of Kilmarnock, established their business so long ago as 1759 and that Burn's "Ode to Tam Samson" referred to the then principal of the firm. That prosperity still marks their efforts was shewn by the lovely collection of Roses, herbaceous plants, hardy fruits and fruit trees, and stove plants put up by them in a tasteful exhibit. We noted a very excellent strain of *Primula Littoniana* and the rarer *Primula glycosma* among a group of hardy plants from Messrs. Oliver and Hunter of Moniaive.

Another Scottish firm, Messrs. Laird and Dickson, had a representative selection of hybrid forms of hardy Ericas and a wide range of rockery plants.

Messrs. Storrie and Storrie, of tiny seedling repute, shewed fruit trees in pots—Apples, Pears, Figs and Grapes principally—and they were as well cultivated as any we have seen at the London shows. The flower department was represented by a good collection of greenhouse and hardy plants in pots.

Mr. J. Dobson, Glasgow, trading as "Leightons," whose business slogan is "Say it in Flowers," makes a speciality of sending cut flowers for any purpose to any address. He had a nice collection of hardy British Ferns, also a noteworthy plant in fine flower—*Begonia Martiana grandiflora*, very bright rose in colour.

A pretty feature of the exhibition was a competitive class for window boxes, some of which were most ornamental and ingeniously planted for colour effect.

Although Border Carnations are over in the South of England, some very fine specimens were seen in the classes for these flowers, Scotland this year being quite a month behind the usual period owing to lack of sun and warmth. The yellow ground Picotees were better than we have seen all the season in any part of the country, and the selfs and fancies quite up to the average standard of July in the South.

At the main entrance an excellent rockery was set up by Mr. David King of Edinburgh, an ambitious project backed by tall conifers and planted with appropriate shrubs and flowering plants.

The Show was an unqualified success and a strong feeling prevailed that the function should become an annual event.

CORRESPONDENCE

CARPETING THE ROCK GARDEN.

I AM sending you herewith two photographs of my rock garden. One shows a little valley clothed with *Festuca Crinum-Ursi*, that splendid Pyrenean Grass. Here it scarcely ever flowers. On a hot, dry site it maintained its fresh greenness right through the heat and drought of the summer of 1921. I have never seen *Lucarvillea grandiflora* so beautiful as when growing in this short natural turf. Such plants as *Anthericum* (*Paradiſea*) *Liliastrum*, *Ranunculus amplexicaulis* and *R. gramineus*, *Dianthus Carthusianorum*, the common *Gentianella* and *Adonis vernalis* are happy in this *Festuca*, which never requires



INTERESTING STEPS IN THE ROCK GARDEN.



A LITTLE VALLEY CARPETED WITH THE DWARF GRASS *FESTUCA CRINUM-URSI*.

cutting. Even *Gentiana verna* and *Primula nympha* have flowered beautifully this last spring in the same *Festuca* carpet.

The other picture shows *Cotula squalida*, *Thymus lanuginosa* and two dwarf Spruces, *Picea excelsa*

Maxwelli and *P. e. nidiformis*, in steps.—AKSEL OLSEN, *Kolding, Denmark*.

IS THE HOLLYHOCK DECLINING?

NOTES on the Hollyhock are interesting to me, as my apprenticeship days were passed with Messrs. Webb and Brand, Saffron Walden, Essex. As successors to the business of Mr. Chater this firm continued to make the Hollyhock a speciality and raised very large quantities of plants annually, there being a big demand for seed also. Propagation was effected by grafting, by cuttings, by division and from seed. At this time the rust (*Puccinia malvacearum*) was giving con-

siderable trouble, and numerous fungicides were tried to combat the disease, with varying degrees of success. The disease being seated within the tissues of the plant, remedies are difficult to apply. The rust is nursed by malvaceous weeds and often by the Musk Mallow (*Malva moschata*). Eventually a specific was prepared in the form of a dry powder, which was applied by means of specially constructed bellows, care being taken that the undersides of the leaves were thoroughly dusted. By efficient cultivation and the continued use of the powder throughout the season, the fungoid growth was to a great extent prevented. Beds containing many hundreds of plants with large healthy leaves from the ground upwards were a conspicuous feature of the nursery. Exhibitions of the flowering spikes and blooms gained many awards in London and the provinces. The Hollyhock is a gross feeder. Deep cultivation and rich soil are essential. In addition to liberal mulchings of manure, frequent applications of manure water should be applied during the early summer when growth is very active and a large amount of tissue is being produced by the plants. As an aid to the production of large, perfect flowers, and also to simplify the work of spraying, all offshoots that shew from the base should be removed. Strong stakes must be provided to which the plants must be carefully secured as they develop. If large blooms are desired, the buds may be thinned, also the top rains, or rains, (according to the strength of the plants) cut away. I believe that it has become the general rule with growers to treat the Hollyhock as a biennial.

Strong plants may be raised from seed sown very thinly in rich soil during May or early June. The seed should be covered lightly with sifted soil. If dry, a soaking of water should be given and the bed kept dusted over with soot until the seedlings are well established. The seedlings should be thinned to six in. apart. Some growers transplant straight to their flowering quarters in September. Others prefer to winter them in frames. In heavy loam or wet clay the latter plan may be advisable. In the southern counties and on light land, however, it is quite safe to winter Hollyhocks in the open, providing merely a light shelter of bracken or litter should severe weather occur. That the present proprietors of the Saffron Walden nursery—Messrs. J. Vert and Sons—continue to cultivate the Hollyhock with great success is shewn by the honours gained by their exhibits alike in London and the provinces.—C. RUSE.

THE SKUNK CABBAGE.

THERE seems to be a lot of disagreement about what is Skunk Cabbage. As a matter of fact, both *Lysichitum* and *Symplocarpus* are known as Skunk Cabbage, but in the West in British Columbia it is *Lysichitum camtschatense* that is called Skunk Cabbage and east of the Rockies it is *Symplocarpus foetidus*. In J. K. Henry's "Flora of Southern British Columbia" it reads "*L. camtschatense*, Schort. (Skunk Cabbage). Leaves often 1 metre long, acute, spathe yellow, 1-2 dm. long with a sheathing base." I may say that I have found leaves 4ft. long and 20ins. wide, but Henry makes no mention of the *Symplocarpus*, which apparently does not occur in British Columbia. On the other hand, in Schuyler Mathews' "Field Book of American Wild Flowers" it gives "Skunk Cabbage, *Symplocarpus foetidus*. Dark purple-red and green," and there is no mention of *L. camtschatense*, which apparently does not occur in the East. Both belong to the Arum family and both smell offensively, so naturally the inhabitants of their several localities call them Skunk Cabbage, as that animal has a continent-wide reputation for smell.—C. T. HILTON, *Port Alberni, B.C.*

PARIS AUTUMN SHOW.

THE National Horticultural Society of France will hold its International Autumn Exhibition of Chrysanthemums, Fruit, Vegetables, etc., in the Palmarium of the Jardin d'Acclimatation. In conjunction therewith the French Chrysanthemum Society will hold its Annual Conference. The Exhibition will open on October 27 and close on November 5.

Having received several enquiries from possible English exhibitors and also being in receipt of a very pressing invitation from the Chrysanthemum Section to induce English exhibitors to enter for competition, I shall be pleased to furnish any particulars that may be required.—C. HARMAN PAYNE, Foreign Secretary, National Chrysanthemum Society, 105, Wellmeadow Road, Catford, S.E.10.

THE ATLAS CEDAR.

VISITING Woodstock Park near Sittingbourne recently, attention was arrested by the beautiful cones freely borne by two aged Cedars, survivors of a group of three, growing at a distance of only a few paces from each other. Standing upright on the flat branches, these large, curiously marked green and red cones shew to great advantage. Though not rare, such fruiting of the Cedar is far from common and is of great natural interest. This ancient park, beautifully undulating and commanding a magnificent prospect over the historic country of the Lower Medway, contains many other arboricultural features. A Spanish Chestnut, whose

branches have reached to the ground, rooted and grown to a considerable size, covers an area of about 120 paces circumference. There are several other ancient Chestnuts, but the Walnuts are the characteristic of the park. Many are three centuries old and isolated, and have an immense and symmetrical reach of branches. A Copper Beech before the carriage entrance of the mansion about equals the width of the house. Woodstock Park is a survival of the old England of tradition and story which is fast passing away and without which England is the poorer.—HURSTCOT.

SOME POINTS ABOUT DAFFODILS.

I WAS simply amazed to see *Narcissus Ornament* (THE GARDEN, April 22, page 191) described as "a glorious Barrii." It was sent me from England when a comparative novelty about five years ago, if I remember rightly, as a substitute for *Heroine*. It has bloomed here under varying circumstances and soils, but always with the same result—a small and poor flower, lacking form and with a sort of nondescript orange cup. The much-vaunted *Homespun*—which we had many years ago and have tried from several different lots of bulbs in all sorts of soils and situations—has also proved a disappointment, as it has always flowered as a small thing of washy yellow, and of form which I need not hesitate to describe (if slangily) as rotten. Both of these varieties, if appearing in seedling beds, would be promptly discarded here. On the other hand, *Princess Mary* and many of her seedlings are uncertain doers here but, when they do well, are really magnificent. *Whitewell*, too, for some obscure reason rarely does itself justice, though a good flower.

I have had the same experience with *Bernardino* as Mr. H. G. Hawker (May 20, page 242). Last season almost all *Bernardino* and many *Ivorine* were deformed and many *Bernardino* went "blind." As to this "blindness," it seems to me that out here it is very largely (but not wholly), due to lack of sufficient moisture during the growing period prior to flowering time. In dry seasons many varieties suffer in this way, so now, when the weather is dry (especially in autumn), we always water the beds to be on the safe side. Varieties very prone to go "blind" are *Bedouin*, *Bernardino*, *Lulworth*, *Kittiwake*, *Lord Kitchener*, *Diana*, *Minnie Hume* (worst of all), *Queen of the North*, *Thistle*, *Sailor*, *Lavender*, most of the doubles and several *Poets* and *Barris*, but no *Trumpets* and very few *Incomps*. *Plenipo* has never flowered yet, though it grows strongly every year—can anyone give a reason for this? At present we miss *Maximus* very much, as it is "on strike" again, its shyness of flowering being its greatest failing.

As regards abnormal seasons (Mr. Pearson's letter on the same page), the vagaries of season, it must be admitted, are somewhat of a trial, though here we would never have a series of frosts such as recorded by Mr. Pearson, as frosts in this locality are extremely rare by mid-season, which normally may be reckoned roughly as about August 23 to September 7. I well remember the freak seasons of 1916 and 1919. In 1916 the season was normal till about August 20, that is, only the very early and the early flowers in bloom. I was called away from home for about a week and on my return to my surprise found that almost all were in full bloom except the later varieties! After that the season was soon normal again. In 1919 we had the shortest season I have ever known, September being unusually mild, the blooms after about the second of that month simply rushed into flower and about the twentieth the season was completely over. The present season is late by at least a fortnight, although the tazettas opened at their usual time, end of May and early June. AUSTRAL, *Geelong*, *Victoria*, *Australia*.

A BEAUTIFUL SHRUB.

THE shrub shown in the photograph is growing in the garden at Nuthall Temple, Notts, and is, I think you will agree, a very fine specimen of *Eucryphia pinnatifolia* (the Brush Bush), a native of Chili, which has pinnate leaves and large white flowers about 3 ins. in diameter. It is 17 ft. 6 ins. high.—R. H.

[The chaste, somewhat *Rose-of-Sharon*-like blossoms of this glorious tree will be familiar to most readers, but there can be few British specimens of the size of the one illustrated.—ED.]

ANEMONE-FLOWERED DAHLIAS.

FROM a passing allusion on page 438 it seems that some persons are under the impression that *Anemone*-flowered *Dahlias* are a new type. The one figured on that page, *M. C. Dupont*, may be in some points, but it is quite certain that the *Anemone*-flowered form of *Dahlia* was produced by growers at a very early stage in the European history of that flower. Want of time just now prevents my making anything like a systematic search among my old *Dahlia* records, but when I turn up "*Sweet's Florists' Guide*," Vol. I (1827-29), I find on plate 110 a very good example of the type then known. It is called the "painted lady *Anemone*-flowered *Georgina*." The text tells us "the present handsome variety belongs to a new tribe, known by the name of *Anemone*-flowered amongst cultivators, the flowers having their centre composed of narrow radiated florets, like the small petals in the centre of a double *Anemone*." It is more than probable that in the subsequent fever for the show and fancy varieties, the *Anemone*-flowered *Dahlias* fell into disfavour and were but little esteemed by our exhibitors.

They were, however, known in Germany, for *Jakob Ernst von Reider*, a most voluminous writer on floriculture in that country, tells us in one of his little manuals, "*Die Beschreibung und Kultur der Georginen*, etc.," Ulm 1834, that the *Dahlia* was then divided into four classes, of which the third is given thus:—

III Klasse: *Anemonenartige Georginen*.

It is not necessary, perhaps, to explain to the reader interested in the *Dahlia* that about the date mentioned florists in England, France and Germany had to a great extent adopted *Willdenow's* name of *Georgina* for *Dahlia*.

Anemone-flowered *Dahlias* may have remained in cultivation on the Continent ever since they were first obtained from seed, but to make sure of that conjecture necessitates time. At any rate, fifteen years ago, when *Rivoire* of Lyons published their little book "*Le Dahlia*," they included a section of what they called "*Dahlias Gloria*" (ou à fleurs d'*Anemone*), in which twenty-one varieties are included.



A MAGNIFICENT *EUCRYPHIA PINNATIFOLIA*.

Although my old friend *George Gordon* makes no reference to the *Anemone*-flowered *Dahlia* in his work on that flower in "*Jack's Present-day Gardening Series*" in 1913, it is worthy of note that *Wroe* in "*Dahlias and Their Cultivation*," five years before, does refer to them and says they were then a recent introduction from the Continent, dating to the year 1901.

They are certainly known in America, for they are mentioned in *Circular No. 43* of the *New York Agricultural Experiment Station* (1915), and in *Mrs. Stout's* new work, "*The Amateurs' Book of the Dahlia*," recently noticed in your columns.—*C. H. P.*

AN EXPERIMENT WORTH MAKING.

THAT pretty blue flowered shrub, *Clerodendron ugandensis* has recently become popular in this country. Curiously enough here it is looked upon as a climber and in the greenhouse at *Kew* it certainly has such a habit. In its wild state, however, it is a low shrub, not more than a few feet high.

It is a sun lover, growing only in grassland, or open bush country. In parts it is burnt off annually during the grass fires, which take place in the dry season. The woody stems of the plant, however, do not appear to suffer, for it grows up again in the rains, and it is particularly abundant in such situations.

I have seen this species growing at an elevation of 7,000 ft. in *Kenya Colony*, so it appears worth while trying as a summer bedding plant out of doors. At the high elevation the species was particularly floriferous. Judging by the rapidity of its growth after a grass fire, our English summer should be quite long enough for it to flower in if strong plants were put out in June.—*E. BROWN*

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Maincrop Potatoes.—Make the best use of available time during dry weather to get all Potatoes lifted, as there is nothing to be gained by their being left longer in the ground. Where the work is unavoidably held up for some weeks, the haulm should be cleared away so that all light and air possible may reach the ground.

Tomatoes.—The present season has proved once again the futility of placing much reliance upon outdoor Tomatoes, for in the majority of cases, according to the reports, they are a poor lot. Cut off all the bunches as soon as they commence ripening and finish in a slightly warm building, such as a greenhouse, and thus allow the small fruits to have all the encouragement possible to swell up to a usable size for pickling and chutney purposes.

Brussels Sprouts.—These, in common with the majority of the Brassica family, have made an abundance of growth. It may prove advisable—indeed necessary—where the crop is in an exposed position to secure some of the taller-growing plants by staking. The bottom leaves should now be removed so that light and air can penetrate more freely.

Endive.—Plants raised during the latter part of June and early July will need treatment for blanching. The moss-leaved ones should have a flower-pot placed over them for the purpose, but the other varieties may be tied up in similar manner to Cos Lettuce. See that the late plants, which are now being got out to stand the winter, are given a light soil and a warm border.

The Flower Garden.

Pæonies.—From now until the latter part of October is the most favourable time for planting these beautiful spring-flowering plants. There are two groups, namely, the herbaceous and the "tree." The herbaceous are much more extensively grown, and may be used with good results in several ways. Unquestionably the most effective results are when they are planted by themselves in bold beds about the grounds in semi-shady spots or by the side of the pathways in the woodland garden. When preparing the site for them incorporate some well rotted manure and afterwards only disturb them when they need redividing, for the less disturbance the more flowers. The tree Pæonies do not appear to mind a great deal what the soil is, but as they flower quite early in the season a cold retentive soil cannot be expected to enable the plants to give such returns as a warm sandy soil would. Where it is necessary to have something in flower later than the Pæonies it may easily be provided by planting bulbs of Lilies, the large-flowering type of Gladioli or Hyacinthus caudicatus. A very pretty early spring effect may be obtained where there is a large bed or border devoted to the herbaceous Pæonies by planting yellow Narcissi among them. Flowering, as they frequently do, just when the Pæonies are unfolding their first leaves, the many delicate tints of foliage help to make the picture quite a pleasing one.

The Hardy Fruit Garden.

General Notes.—In addition to the gathering of early Apples, Peaches and Pears, care must be taken of the late Plums, which are often of great use for dessert purposes, but must not be gathered too soon. Particularly does this apply to Coe's Golden Drop. Mulberries where grown and required for bottling purposes should not be too ripe for the purpose or they may present a bruised and pulpy appearance in the bottles. The cold, showery and sunless weather has been all against Fig fruits finishing in a proper manner, so where the removal of an unnecessary growth or the tying aside of a few leaves will be of benefit to finishing fruits let it be done at once. The gathering of Nuts will soon call for attention, but this is essentially a crop which must not be collected until quite ripe and the Nuts ready to drop from their husks, or a goodly number will shrivel. The harvesting of all kinds of fruits offers a good opportunity to get doubtful names verified or corrected, as the case may be.

Fruit Under Glass.

Early Peaches and Nectarines growing in tubs and pots which will be called upon to supply the earliest fruits should now be taken in hand and receive the necessary repotting. Assuming the plants are now occupying receptacles as large as intended for them, a small portion of the old ball of soil should be gently liberated with a

pointed stick. The tree can then be replaced in a clean receptacle of similar size and the compost very evenly and regularly worked around it, to do which the aid of a somewhat thin and flatish potting stick will be required. The compost should be good fibrous loam to which a little bone-meal, wood-ash and old mortar rubble has been added, and it is important that the soil be made very firm. When all the trees are dealt with, stand them fairly close together on a bed of ashes, giving a couple of syringings a day for about a fortnight, unless the weather is showery. See that a thorough watering is given so that all the new soil is nicely settled round the roots.

H. TURNER

(Gardener to Sir Henry H. Houldsworth, Bart.),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Potatoes.—Mid-season varieties should now be lifted at the first favourable opportunity and stored in a cool cellar or clamp. A sunny day should be chosen for the work and the tubers be left lying on the surface for a few hours to dry before finally storing. Tubers that are a suitable size for seed purposes should be laid aside and boxed. The seed boxes should be placed in an airy loit where the tubers will be free from frost.

Celery.—As growth advances, earthing up must be attended to. The stalks should be tied together with raffia to prevent the soil from working into the centre of the plant. Where the soil is lumpy it should be broken into a fine condition before placing round the plants.

Late Peas.—Owing to the dull and wet weather experienced in northern gardens this autumn, late Peas are slow to swell their pods and in many gardens considerable anxiety is felt regarding the success of the ordinary late sowings. Swelling may be assisted by pinching the tops, while a good watering of liquid manure may be given in cases where the ground is not over rich.

Turnip-rooted Beet.—All Turnip-rooted Beet from ordinary sowings should now be lifted and stored in an open shed, working sand freely among the roots so that they may keep in fresh condition through the winter months.

Spinach Beet.—Late sowings should now be thinned freely and the ground between the lines loosened with a cultivator or hoe.

Tomatoes.—A little more heat should be kept in the pipes to help the later trusses of fruit to attain good size and flavour. Care must be taken at this time to accord reasonable ventilation, since a close atmosphere tends to cause the fruits to drop before ripening.

Fruit Under Glass.

Vines.—In vineries where the Grapes are ripe, free ventilation must be given at all times when the weather is favourable in order to keep a buoyant atmosphere. Just sufficient heat should be maintained in the pipes to warm the air. Too hot a temperature not only encourages red spider, but also causes the berries to shrivel. Immediately the Grapes are cut, give the inside border a good soaking of diluted liquid manure. On vines carrying healthy foliage this feeding will materially assist bud development. An important point in Grape culture is to keep the foliage in a perfectly healthy state till it falls naturally.

Orchard-house Trees.—The general re-potting of all pot fruit trees cleared of their crops should now receive attention. Some may for this year only require top-dressing and this may also be done now. Trees re-potted at this season emit new roots and recover quickly before wintry conditions set in. Loam of good quality should be employed, adding a fair sprinkling of ½-in. bones and bone meal. Pick out as much of the old soil as possible from the roots, using a pointed stick for the purpose. Pot firmly by ramming and stand the trees outdoors for a month or two. For stone fruit the addition to the compost of some lime rubble from an old building will prove of benefit.

The Flower Garden.

Hardy Borders.—To maintain tidiness in the hardy borders extra attention should be given them at this time, cutting away all withered seed tops from plants that are past flowering; this will allow such late-flowering plants as Michaelmas Daisies, Phloxes and perennial Sunflowers more light and air to develop their blooms.

Rambler Roses.—Immediately these pass out of flower opportunity should be taken to cut out

as much of the old wood as possible, tying in the strongest shoots of the present year's growth.

Border Carnations.—Rooted layers should now be lifted and put into 4in. pots, half plunging the pots into ashes for the winter. A part of the frame ground should be chosen where a light may be placed over them during severe weather. In favourable districts many of the more hardily constituted sorts may be planted out direct into their flowering quarters.

JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),
Coolham, Kilmarlock.

GREENHOUSE AND CONSERVATORY.

Sweet Peas.—Where it is desired to grow Sweet Peas in pots, they should be sown towards the end of the month. Although they transplant readily, it is best, where only small quantities are required, to sow them directly into large "sixties" or "48" sized pots, placing five seeds in a pot. The compost should consist of a good rich loam with the addition of a very little thoroughly decayed leaf-soil and enough coarse sand to keep the whole porous. It is advisable to file or chip some of the varieties that have a hard outer coating. After sowing stand the pots in a cold frame, covering the pots with pieces of glass to protect from mice, or the seeds may be coated with red lead. After germination they should be given full exposure to light and air, drawing off the frame lights on every favourable occasion, as it is not desirable that they should make much visible growth during the dull days. Although making little top growth, they will, if properly treated, make quantities of roots. Early in the new year they may be transferred directly into their flowering pots, which may be 10in. or 12in. in size. With so large a shift watering must be carefully done until the roots get a good hold of the new soil. As soon as they require it, they should be carefully staked and be kept regularly secured to their supports. They should be given perfectly cool treatment at all times with full exposure to light and air. Apart from their value for supplying cut flowers, well grown specimens are always much admired in the conservatory.

Oxalis floribunda (syn. rosea) and its white variety and *O. purpurata* (syn. *O. Bowiei*) are all beautiful greenhouse plants. Although once very popular, they are by no means so generally grown at the present day as they should be. They make pretty and useful pot plants for the cool greenhouse and very elegant basket plants. The dry tubers can be purchased at this time. Where stocks already exist they should be turned out of their pots and the largest tubers selected for potting up. They grow well in any good potting compost, and 6in. or 7in. pots are the most suitable size for them. After potting they may be stood in a cold frame and watered sparingly until they commence to grow. They may remain in the frame until they show signs of flowering, when they should be given a light position in a cool greenhouse. They flower during the early summer months. After flowering, water should be gradually withheld as the foliage dies down. They should then be kept dry in a cold frame until it is time to repot them.

Ixias and Babianas are both natives of South Africa. The corms should be potted towards the end of the month or early in October. The former can be had in a great variety of colours, many named varieties being offered for sale. They are very elegant plants, and are excellent for a supply of cut flowers. The corms are small, and six or eight may be put in a 5in. pot. They enjoy a light rich compost, and some well decayed mushroom-bed manure may with advantage be included in this. In common with all South African bulbous plants, they must have good drainage. After potting they should be stood in cold frames and given very little water until they have started into growth. In every respect they require the treatment from time to time suggested in this column for other South African bulbous plants.

Vallota purpurea is another beautiful bulbous plant, also South African, which one seldom sees in good condition in gardens, although it is commonly seen growing to perfection in cottage windows. Where fine well established specimens are flourishing it is a great mistake to disturb them, as this is by no means an easy plant to establish. Established specimens often get overcrowded with offsets, which should be removed and may be potted up if it is desired to increase the stock. About this time dry bulbs may be purchased. According to size, four or five may be put in a 7in. pot. They do best in a good

medium loam with very little leaf-soil added, but plenty of clean coarse sand to ensure perfect drainage. Very little water should be given until plenty of new roots are produced. It is probably at this stage that most cultivators fail, for if too much water is given the soil gets sour, in which condition it is impossible for new roots to develop. On the other hand, some growers

dry them off, which is a mistake, as the plant is really evergreen, although when it has completed its growth the plants may with advantage be kept on the dry side for a time. They are subject to attacks of mealy bug, which must be carefully guarded against. Quite cool treatment is essential at all times.

Royal Botanic Gardens, Kew. J. COURTES.

SOME SUPERLATIVE SWEET PEAS

ALTHOUGH I cannot claim to have had the long experience with Sweet Peas that the writer of the article on page 424 has, I have grown all the best of the modern varieties during the last ten years, so that I venture to give an opinion on the merits of the most important kinds.

It is true that one cannot name, say, a dozen varieties and term them "The Best Sweet Peas," for individual tastes regarding colour differ so much and different growers require their blooms for different purposes, but there are certain varieties that invariably succeed in most localities, and these eventually become the popular kinds.

Unfortunately there are certain varieties that are not sunproof, but as these embrace some of the loveliest of the shades, it is worth while to protect them from the strong sunshine if the somewhat unsightly appearance of shading material can be allowed. I have tried, this year, a neater plan of shading. My Sweet Peas are grown on wire netting secured to strong posts and all the varieties which are not sunproof are planted together. Above these, tanned cord netting (such as is used for protecting fruit) is stretched tightly and secured to the top of the wire netting and the posts that come between. Then strips of white calico are cut to such a width that there is a space of about six inches on either side to allow the rain to reach the roots of the plants and prevent them from becoming drawn. This is fastened to the cord netting and the whole is made secure from being blown about by strong winds by tying canes across, which rest just below the shading material. This is not unsightly, and it is the most effective way of shading that I have yet found out.

I will deal with these exquisite shades that need protection first. Tangerine Improved is the best orange and *Gloriosa* the best orange-scarlet. The latter is much superior to *President*, a variety that will soon be out of date. In a summer like the present, when the sunlight has not been so strong as it was last year, *Gloriosa* is practically sunproof, but it will lose a little of that rich orange fire in the standard when the sun is very hot. *Royal Flame*, a novelty for 1923, is an even more vivid colour, having the flame tint in the wings as well as the standard. These three varieties do best if a little leaf mould is added to the trench. *Royal Salute* and *Royal Scot*, mentioned as being "burners" in the article on page 424, are both perfectly sunproof, in fact the more sun they get the more brilliant is their colour. It is only in cold unsettled weather that the flowers lose their colour (or more correctly do not develop it) near the edge of the petals, and this may give rise to the mistaken idea that they "burn." In the salmon shades nothing is quite equal to *Salmon Queen*. It is most vigorous for a variety in this colour and produces blooms on very long stems, many of which are duplex. I have a fine patch of it this year, its first season out, and in 1920 and 1921 (when I was privileged to grow it for trial before its introduction) I found it equally good. *Mignonne*, which makes its appearance this autumn, is another lovely bit of colour and, when shaded comes the cleanest and softest of shades of pale cerise, resembling the pure tone of the *Cottage Tulip* *Cassandra*, the *Rose Cherry Page* and the new *Dahlia* *Norah Bell*,

but possibly a little more delicate than any of these colours. I have been pleased with *Mignonne* both in the heat of last year and in the cooler conditions of the present season.

The best scarlet that needs shading is *Burpee's Scarlet Duplex*. It is a more vigorous grower than *Hawmark Scarlet*, and gives more double standards. It has fine stems and altogether is a variety well worth growing.

One cannot leave the non-sunproof varieties without mentioning the orange-pinks. In this class *George Shawyer* and *Eva* are the two best. They are not identical, the latter having a very decided orange sheen in the standard, while in the former, the pink seems to be more flushed with salmon. Both are vigorous growers, and have long stems.

It must not be supposed that rich colours can only be found in the varieties that will not stand the sun. There is a sunproof scarlet in *Scarlet Glow*, a little different in tone from *Burpee's Scarlet*. *Doris* is most a beautiful cherry-pink, and *Glory* and *Hawmark Cerise* are both of similar colouring. All are sunproof. Then there is *Royal Scot*, scarlet-cerise, and, more vivid still, the new variety *Wonderful*, which glitters like rubies in the sunlight.

As a rich pink, *Hawmark Pink* provides a fine bit of colour, but it has not quite come up to expectations. I grew five stocks of it this year, the best that could be obtained, and although the colour is glorious, the habit of the plant is not vigorous and the stems soon begin to shorten. Even the best stocks give a few paler tinted blooms. *Hawmark Salmon Pink* is perhaps a little more stable in colouring, and generally a little richer, but I should like to grow this another season before coming to a definite decision.

Picture is undoubtedly the finest of the deep cream pinks, a giant flower of superb colouring. In the pale cream pinks there are several superlative sorts. *Mrs. Arnold Hitchcock* (Messrs. E. W. King and Co., have a very fine stock of this), *Cecily*, *Bessie* and *Fair Lady* are all extra good. This colour is exquisite for decorative purposes. *Mrs. Hardcastle Sykes* must now take second place to *Valentine*, one of the finest varieties in commerce and a beautiful shade of blush pink.

John Ingman must be grown from a very select stock, and there are but few of these about now, to equal *Renown* and *Mascott's Ingman*, two very fine new varieties. *Mrs. Tom Jones* is not as good as it was two or three years ago and I have seen one or two very fine blue seedlings that may possibly supersede it. *Colne Valley* is the best of the pale lavender-blues, *Elsie Dene*, the best pure light blue (under glass it inclines to lavender), while there is very little to choose between *Commander Godsall* and *Jack Cornwall V.C.*, in the dark blues. In lavenders, *R. F. Felton* still makes good and it has been a wonderful variety, but *Austin Frederick Improved* seems destined to lead the way among the rosy lavenders. It is tremendously strong, has huge stems and gives big blooms mostly in fours. The new variety *Powercourt*, which Messrs. Alexander Dickson's hope to introduce this autumn, will probably lead the way in pure lavenders. Mr. G. T. Dickson sent me a box of lovely blooms the

other day, almost the last word in Sweet Pea perfection, every spray a four, all the stems long and stout and the flowers proportionately large and well frilled.

I am still convinced that *Constance Hinton* is the largest white. I grew three of the best stocks of this, but they required the sunshine of last year to make them equal in purity to *Edna May Improved*. A lovely frilled white is *Innocence*, which I recommend for those who like a pure white that is really white in all weathers. *Matchless* is the best cream till another from the same raiser beats it, but that will not be yet. In the dark shades *Warrior*, *The Sultan* and *Splendour* will supply three different colour tones for those who like these shades. The picotee-edged varieties are very beautiful, *Anne Ireland*, white ground, and *Improved Jean Ireland*, cream ground, are the only ones required. The latter is a novelty for the coming season, which Mr. Woodcock hopes to distribute. I have grown it this year and it is a decided improvement on the old variety, having exceptional vigour and giving a larger proportion of four bloomed sprays. With the exception of these daintily edged varieties, self shades are the most popular, and there are now so many fine varieties that it becomes increasingly difficult to decide which to omit in making selections.

NORMAN LAMBERT.

THE ROYA VALLEY IN THE MARITIME ALPS.

THE long valley ascending from *Ventimiglia* and leading to *Tenda* is one of the richest in the Maritime Alps. Perhaps this is due to the fact that it is better known than others, as the Rev. Bicknell has written largely about it as well as Dr. Mader. It is one of the most picturesque and curious of them all. At its foot along the *Roya* one may see thousands of *Nerium Oleander* flowering from May to October, and the common *Myrtle* and *Rosemary* springing up from every rock. Near *Tenda* one finds the alpine flora (*Saxifraga lingulata*, *S. diapensioides*, *Lilium pomponium* and *L. Martagon*, *Alyssum halimifolium*, *Globularia nana*, *Iberis*, *Primula marginata* and *latifolia*, etc.) The valley is 50 kilometres long and the road passes through the most remarkable gorges imaginable.

I am just returning thence, and am still under the charm of its rich and beautiful vegetation. Let me tell your readers about it. At *Tenda* between the hardest rocks one finds the very rare *Moehringia papulosa*, whose silver leaves are the most curious of all that grow. Then near the old town may be found the very fine *Linum viscosum* with rose pink flowers and *Lilium pomponium*, the most brilliant of all the *Martagon* group. This *Lily* is the glory of the South with its vermilion crowns, which shine in the landscape as stars in the dark. It grows—very curiously—between rocks and stones, as no other *Lily* does, and goes very deep in the ground. The underground stalk is often covered with little bulbules which reproduce the plant as well as do the seeds, but more quickly, of course.

Sempervivum calcareum and *Saxifraga cochlearis* var. *minor* (*S. Probyni*) adorn the slopes, along with masses of *Campanula macrorrhiza* in sunny places. And then, if one turns into the small valleys, there is to be found the rare and curious *Eryngium Spinalba*, which is to the south-western Alps what *E. giganteum* is to the Caucasus, *E. alpinum* to the central Alps and *E. Bourgati* to the Pyrenees. *Micromeria piperella* with its pink flowers adorns every rock, and the dwarf *Globularia* extends its masses of grey foliage on the driest

places together with that of *Saxifraga cochlearis*. Above St. Dalmazzo the rocks are at the highest altitudes covered with big tufts of *Primula Allionii*, which is not so rare as is often thought, for the whole of the cliffs of red rock are covered with it. The thing, however, is to go high enough to reach it. The plant is there in such quantities and in such inaccessible places, growing always on the face of steep cliffs which no man can traverse, that there is no need to conceal its station. The plant's nature protects it against vandals. There are, besides, masses of *Moehringia sedoides* (= *dasyphylla*) and of *Potentilla Saxifraga* growing on these perpendicular walls, adorning them jewel-like. A very curious *Daphne* (*Thymelæa dioica*) forms large tufts of grey foliage together with the orange discs of *Plagius Allionii*. What a display all these flowers together provide and how sweet is the scent of all the various herbs—*Satureia*, *Hyssop*, *Lavender*, *Thyme*, *Rue* and *Nepeta*.

The Lady Maidenhair (*Adiantum Capillus Veneris*) and the curious climbing shrub called *Ballota spinosa* hang in shady and damp places, and the rare and curious *Pinguicula longifolia* can, or rather could, be found in masses on damp rocks near Fontan. I say "could be," as now the rocks where once it grew are all obliterated by the engineers who constructed the railway. It is to be hoped that the plant has higher stations on which it has carried on; near the road every bit is destroyed.

Fontan is the first French village when descending from Tenda. Quite a little place, it is the best centre anywhere about for botanising expeditions. The walls and red rocks are the best home for *Primula Allionii*, and the slopes are rich in *Lilium pomponium*. Above the high rocks Bicknell found the rarest of all the Campanulaceæ, *Phyteuma Balbisii*, and I myself found there *Woodсия hyperborea* and *Aquilegia Reuteni*. *Hypericum Coris*, *Micromeria piperella*, *Lilium viscosum* and *gallianum*, and *Saxifraga cochlearis* are everywhere, and if one follows the beautiful Val Cairois to the Col de Raus, one comes to fields of *Lilium pomponium* growing as thick as the grasses in our meadows.

The little town of Saorge, hidden among the Olive trees, is quite a picturesque one. There grow *Saxifraga cochlearis*, *Ruta bracteata*, *Lavandula officinalis* and *Stoekas* in masses. And on the rocks which command the town *Primula Allionii* can be found. *Salvia Sclarea* and a great many odoriferous herbs are growing along the roadside, and under the Olive trees in the earliest spring there are myriads of *Aneuroles* and of *Gladioli*. Here the colours are brighter than I remember noticing in any cultivated garden.

There is, high above the village of Fontan (three hours' walk), a little peak called La Cèva. It is reputed to be the richest in vegetation of the whole chain, and has been compared to the famous Lantaret, above Grenoble. I went there last month and found the most brilliant flora I could imagine (*Lilium pomponium* and croceum, St. Bruno Lily, all kinds of Orchids, four different *Gentians*, *Phyteumas*, *Campanulas*, etc.). It may be considered as an epitome of the flora of the Alpine meadows, but contains nothing of exceptional rarity. H. CORREYON.

The National Rose Society. We understand that during the past two months the number of new members joining the National Rose Society is 200 per cent. greater than for the corresponding period of last year. Compared with pre-war year, 1913, the increase is even more remarkable, being more than 400 per cent. A record number of fifty-four new members joined at the last meeting. The present membership is close upon 9,000.

OBITUARY

MRS. R. V. BERKELEY.

It will be with a sense of almost personal loss that many readers will hear of the death of Mrs. Berkeley of Spetchley, who, like her sister, Miss Ellen Willmott, has done so much for horticulture. Not so much by what she had actually achieved in plant breeding, though her successes in this field were very considerable, but by the enthusiasm which she brought to bear on all matters connected with gardening, did Mrs. Berkeley make her influence felt. Great as was her love for beautiful flowers and the adequate arrangement of the growing plants, her influence and example in food production and distribution was equally remarkable when, five or six years ago, the danger of a serious food shortage was only too real. None who saw and admired her beautiful strain of coloured *Primroses* at Vincent Square only a few months ago had any inkling that that was the last time they would be shewn by their raiser.

JOIN MORGAN.

With the death of Mr. John Morgan, partner in the well known seed and nursery firm of Thompson and Morgan, Ipswich, which occurred on August 12 after a short illness, there passed away yet another of the select few who have a really comprehensive knowledge of hardy plants and their seeds.

Mr. Morgan, who had devoted his life to horticulture, was of a retiring nature and did not appear much in public, but he was an enthusiastic worker in the Ipswich and District Gardeners' Association, frequently presiding in a vice-presidential capacity at their meetings, while for the current year he was president. The business will, we understand, continue to be carried on under the old and well known name.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—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.2. 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.

FLOWER GARDEN.

GLADIOLI FAILING (O. C. S., Warmminster).—The *Gladioli* appear to be attacked by the leaf-spot fungus *Heterosporium gracile*. The corms seem healthy and may be planted again next season, spraying the foliage with Burgundy mixture from June onwards to protect it against future attack. The diseased foliage should be burnt.

CHRYSANTHEMUMS, ETC., WITHERING (E. H., Surrey).—Something has been amiss with the water supply. Has the root been damaged in any way?

CHINA ASTERS DYING OFF (T. H. S., Andover).—Without seeing a specimen it is most probable that the Asters have succumbed to *Phytophthora* to which this plant is very subject. All affected plants should be removed and destroyed and the soil be well limed in autumn. The soil of the beds in question will be affected and our correspondent will be well advised to reconsider his decision to grow Asters in these beds next year. As plants in other parts of the garden are not affected there would appear to be no infection in the compost in which the young plants were raised.

ERYNGLIUM PANDANIFOLIUM (W. E. C., North Notts.).—This plant is moderately hardy in the south and should succeed in our correspondent's locality if it can have shelter from the north and east and, preferably, the partial shade of a tall tree. The light soil is quite suitable.

BLUE HYDRANGEAS (J. W. M., South Devon).—The applications should be commenced in the spring soon after growth has commenced. In addition to the substances named, it has sometimes been found that top-dressing the *Hydrangeas* with lawn mowings has had the desired effect.

AUTUMN CROCUSES IN THE GRASS (Beginner, Berks.).—The true autumn *Crocuses* are not at all likely to thrive if planted in the grass; these are decidedly bulbs for the border. But the *Colchicums*, which are sometimes termed "Autumn *Crocuses*," are eminently suitable and very beautiful when grown in grass. The best purple and purplish varieties are *C. autumnale*,

C. Bornmülleri, *lilac*, with white centre; *C. byzantinum*, pale mauve feathered with white; *C. giganteum*, dark lilac; and *C. speciosum*, rosy purple. The corms should be planted about 3 ins. deep in July or early August. It would be well to cease cutting the grass at the end of July as, occasionally, they flower early. The leaves appear in the spring-time, so the grass should not be cut until the foliage of the *Colchicums* has died down. Winter *Aconites* and spring *Crocuses* may well be planted in association with the *Colchicums*.

FRUIT GARDEN.

APPLE DISEASED (C. L., Petworth).—The Apple is attacked by the apple scab fungus, *Fusicladium dendriticum*. This fungus also attacks leaves and shoots and passes from one to the other by means of its spores. It is therefore important to destroy all diseased fruits and to prune out all shoots showing swellings between the leaf buds or cracks in the bark, in order to lessen the risk of disease next year. Just before the buds burst and again after the petals fall, spray the trees with Bordeaux mixture.

THE RIPENING OF APPLES (C. W. C., near Hertford).—Juncating is in season at the end of July; Duchess of Oldenburg and Grenadier during August and September; Worcester Pearmain during September and October; Warner's King, December to February; Rosemary Russet, January and February; Sturmer Pippin, March to May. Early Apples are best gathered as wanted from the tree. They rapidly lose flavour and crispness when gathered. Late Apples should be left as long as possible until the approach of rough weather or severe frost makes picking necessary. Sturmer Pippin may often be left on the tree until mid-November.

FIG TREE UNSATISFACTORY (G. G., Hassocks).—The tree has undoubtedly had a check to growth, probably owing to the exceptionally dry weather of last year. At the end of August, or not later than the middle of September the tips of the growing shoots should be pinched off. Embryo fruits will swell, but all half an inch long or more must be removed, as, if retained, they would partly swell towards maturity and then fall off; the smaller fruits are the ones to retain at the end of the season—October. If this work is done the tree will, no doubt, be quite normal again next year.

KITCHEN GARDEN.

CURLING BRUSSELS SPROUTS ("Brussels Sprouts," Surrey).—The leaves sent appear to have been attacked by aphids. Soap-suds sprayed on the plants will be the safest treatment to adopt. White fly seldom does any real harm outdoors, certainly not on Cabbages or their kindred.

MISCELLANEOUS.

STRAWBERRIES UNSATISFACTORY (R. J. W., Broughtly Ferry).—Your plant is *Phormium Cookianum* (New Zealand Flax). The Strawberries sent appear to be old plants, and this would account for their failure. No Strawberry bed should be left beyond three years. The soil appears to need a dressing of lime.

PLANTS ATTACKED BY INSECTS (Austral, Geelong, Australia).—The insects referred to are doubtless spring tails (*Collembola*), but if so they have only six legs, not many. They rarely do much harm unless they are very numerous and food is scarce. They appear to feed mainly on decaying vegetable matter, but may sometimes attack living plants. Where it can be applied water at 110° Fahr. will kill them, but if this cannot be used, a very weak solution of potassium cyanide (one-tenth of 1 per cent.) may be tried, or forking some naphthalene into the ground about the plants that need protection.

ACETYLENE GAS REFUSE (E. E. B., Frimley).—The refuse from an acetylene gas plant may be used on the kitchen garden as a substitute for lime, but it is not nearly so valuable bulk for bulk, so should be used in greater quantity.

NAMES OF PLANTS.—E. H., Wimborne—*Marrandia crubescens*.—M. E. P., Wellingborough.—1, Probably *Berberis vulgaris*; 2, *Selaginella Willdenovii*; 3, *S. Kraussiana*; 4, *S. Emiliana*.—J. W. R. B., Warmminster.—*Campanula Ljansomana*.

NAME OF FRUIT.—H. H. C., Caversham.—Pershore Plum.

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ORCHARD

GARDEN

WOODLAND

Vol. LXXXVI.—No. 2653.

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WISTARIAS AND THEIR TRAINING

EVEN those who have least love for Japanese gardens and Japanese gardening must admire the Wistaria. Like the Japanese Cherries it is "everybody's tree," and yet how many houses does one see smothered in various, more or less effective, climbing plants, but destitute of Wistaria? Why is this? For a house with any pretensions to architectural interest the Wistarias are surely the best of all climbing plants. (Climbing plants they are, though they cannot climb on a flat surface, needing something comparatively thin round which to twist the young wood.) The growth of both the commonly-grown species—the so-called Japanese, *multijuga*, and the Chinese, *chinensis*—is vigorous without being overpowering, so that they may be readily trained to adorn rather than to smother the front of the building against which they are planted.

The "Japanese" Wistaria, as we know it, has doubtless been considerably improved by the Japanese florists, but it is really a native of North China and probably not indigenous to Japan. It is magnificent for training over tall pergolas or on an elevated trellis. For walls it is really less suitable than *W. chinensis*, though by training main laterals horizontally and a sufficient distance apart, it may be shewn to advantage there also.

The association of various habited "furnishing" plants to architecture receives much less attention than it should. A bald uninteresting expanse of wall is caused by want of appropriate detail. If a cornice would have filled the bill in the original design, the bad effect can be at least greatly mitigated by training a Wistaria horizontally to replace the missing element. Similarly, living pilasters of *Cratogeomys*, for example, will provide upright features where desirable.

If the wood of the past year is reduced each winter to three or four eyes, the Wistaria will make a satisfactory self-supporting bush. Indeed, plants which have been stunted in pots in the nursery often retain the bushy habit. If they are

wanted to climb, care should be taken to purchase healthy young trees with an abundance of young wood. The pruning of a climbing Wistaria is (or should be), similar to that of a trained Pear tree. Laterals are taken off where required and allowed to extend reasonably each year until their allotted space is filled. The sub-laterals are summer pruned to ten or a dozen leaves—if this is not done there will be yards of thin growth tangled all together—and in winter spurred back to the flowering wood. With plants trained on

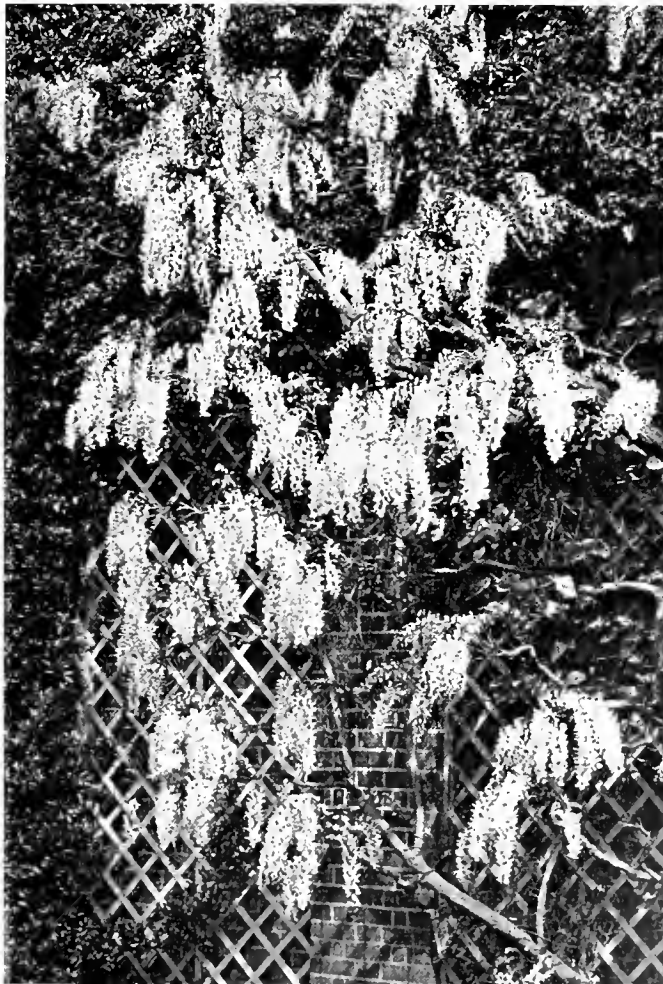
wires to give the "floral bell tent" effect so well known to visitors to Kew Gardens, the training may be more informal, but the same principles will apply.

The common form of the Chinese Wistaria has flowers of a delightful mauve tone, so distinct as to be a commonly used colour shade. The "Japanese" species is, in commerce, a much more variable plant, but if one can but obtain them, its best forms are darker and even more desirable as regards colouring than the Chinese. The length of the racemes in this species is extraordinary. The rosy form—*rosea*, is well known, but less beautiful than the mauve purple ones and there is a pure variety which is rather shorter in the raceme, though still long, and later to flower. The white form of the Chinese species is, strangely enough, earlier to flower than the typical plant. The general experience is that it is less free to flower than the typical mauve.

Like the Grape Vine the Wistaria develops quite a trunk and butt with age. A diameter of more than 18 ins. is not uncommon for the trunk of an old specimen. The Wistaria, fortunately, is comparatively long lived. Its introduction to English gardens dates back just over a century (1816), and some specimens now in existence must be close upon a century old. The oldest specimens, however, almost invariably shew signs of decrepitude with hollow trunk and diminishing foliage, so that the effective age of the plant may be placed at from eighty to hundred years.

In some seasons there is quite a good second crop of blossoms on *W. chinensis* in August. This has been very noticeable this summer when some plants were almost as laden in high summer as they had been previously at the end of May. This has also been a remarkable year for the amount of seed produced. Probably the hot summer of 1921 and the consequent ripening of the wood made for fertility. The velvety and singularly shaped seed pods are distinctly ornamental when produced in quantity.

There seems no reason why, in the south of England, the Wistaria should not be planted to overrun



WISTARIA MULTIJUGA¹ ALBA ON A HOUSE WALL.

trees just as one plants various *Clematis* species or *Rosa moschata* for the purpose. The long-racelled *W. multijuga* would seem best suited for the task as being more effective.

Bush *Wisterias* are, as a rule, planted to associate with water which, of course, redoubles their charm by reflecting the glorious trails of blossom. One feels that had these beautiful woody climbers been known in Tudor days, many of the pleached avenues of Lime and such like would have been

carried out in *Wisteria*. There really seems no reason, therefore, why those with old gardens (or with gardens to an old house), should not plant *Wisteria* to be trained in this manner. They would ultimately become almost, if not quite, strong enough to stand alone. It is not quite evident why, when reconstructing an old garden, we should be bound by the limitations which handicapped our forefathers. Surely it is better to build upon the past with whatever

of old or recent introduction will best serve the end in view! The *Wisteria* is assuredly an old-fashioned flower. Even though it has been cultivated for a mere century in Britain, it has been grown no doubt by the gardeners of Japan since long before Tudor times and it has that peculiar sophistication characteristic of plants long in cultivation.

As previously stated, both the *Wisterias* commonly cultivated in this country are of Chinese origin. Though sufficiently distinct, they are obviously closely related. There are, however, other species in existence of which two at least are Japanese. Of these the only one of which much is known, *W. japonica*, was introduced for Messrs. James Veitch as long ago as 1878. Compared with *chinensis* or *multijuga*, this species is a pigmy with numerous small white flowers in racemes 6 ins. to 12 ins. It is said to provide a wonderful spectacle when smothering a large bush or small tree, but is seldom seen in cultivation in this country. It is probably not over hardy unless in favoured situations, otherwise it would be particularly valuable, as it flowers in July and August.

The American species, *W. frutescens*, bears its flowers in short terminal racemes, often held erect. The flowers are pale lilac in colour, but it never gives a very striking display because the racemes do not display their beauty simultaneously. Commencing to blossom in June, it continues more or less in flower until the end of summer. A form of this or, possibly, a distinct species, variously called *W. frutescens magnifica* and *W. macrostachya*, bears larger racemes and is in every way a better plant. It is not readily procured in nurseries or would be well worth planting in southern gardens. It is an admirable tree climber.

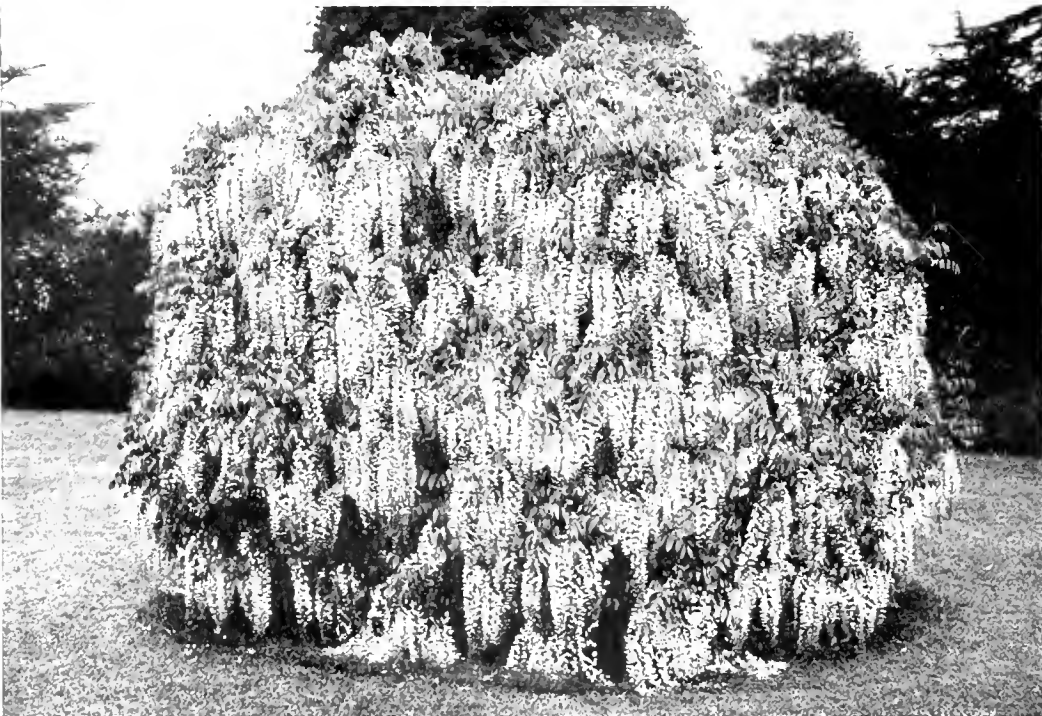
The propagation of *Wisterias* is relatively easy. They may readily be layered or cuttings of the current season's wood, if removed with a heel as soon as moderately ripe (usually in August), will root satisfactorily.

As purchased, the plants are almost invariably grafted. Where grafting is carried out on to roots of the same species, it is comparatively innocuous, but plants on their own roots are safer. Grafting is easily carried out in spring under glass with a little bottom heat. It is truly astonishing, however, how grafting persists as a means of propagation for many plants which increase readily, not only from layers, but from cuttings.

In favourable seasons, seeds ripen freely and are easy to germinate. The seedlings do not, however, as a rule, produce very good forms. Seedlings of *W. multijuga*, in particular, are apt to be exceedingly "washy" in colouring and comparatively short of trail. If a good type be secured from seed, it has naturally abounding vigour. Seedlings serve the nurseryman for stocks on which to work better types.



WISTERIA MULTIJUGA ALBA AND *W. CHINENSIS* (TYPE).



A WISTERIA BOWER AT KEW.

NOTES FROM A SEPTEMBER GARDEN

IN a garden where the drainage is sharp, the soil porous and the aspect hot, the experience of an average summer does not lead one to expect very much in the way of colour in August and September. But the fierce heat of the earlier months, followed by sunless, rainy weather, has had the effect of giving us a garden that is now a gay medley of spring and autumn.

Most noteworthy, perhaps, is the rock garden, usually so bare just now, where such good old Aubrietias as Mrs. Lloyd Edwards, Dr. Mules and Perry's Seedling, are all bearing a fine crop of blossom on growth that would, under more ordinary conditions, not flower until next spring. That wonderful ally of theirs, *Arabis Sundermannii* is equally well covered with its delightful rose-pink blossoms. Indeed, it has not been out of flower since April and reached the height of its display in the drenching days of early August.

Among the smaller *Hypericums*, *H. polyphyllum*, which is almost a miniature olympicum, has surpassed itself as an autumn bloomer, a large plant being to-day (September 10) a silvery mass blazing with yellow. As chance would have it there is near this a mound of *Raoulia australis*, which loves a wet late summer as much as it detests a muggy winter. Its countless little leaves are so closely set and so silvery that it might be mistaken for a lichened rock, while over its frosty hoariness there is creeping, like a fungus, an eruption of tiny golden flowers. Yet another yellow planting, *Oenothera pumila*, is here and doing its best, a midget Evening Primrose no more than about 4ins. high.

Though autumn is the season of most of the Evening Primroses, such well known and admirable species as the yellow *macrocarpa*, *taraxacifolia* and *marginata* in white and *Arendsii* in blush have this year responded to the weather conditions with a more liberal succession of flowers and these of larger size than we have seen for years. This also applies to those pernicketty creatures, the rock garden *Erodiums*, for although some of them looked like saying goodbye to the grey skies six weeks ago, they have cheered up amazingly and are now growing well. One of the daintiest of these (also one of the most fretful), is *E. chrysanthum* which raises above its silvery leaves little fragile sprays of flowers in the most delicate citron yellow. Of *E.E.* *cheilanthifolium*, *trichomanefolium* and one or two more of a type whose foliage is more or less like the fronds of Parsley Fern in silver, and whose flowers are dotted or veined, plain or blotched "pink butterflies" poised on airy stems there is one which seems to possess the

charm of pure loveliness to a degree scarcely attained by others and that is *E. supracanum*. One's September garden need seldom be without the delightful china-white blossoms of *E. Reichardi*, standing about an inch above its deep green,



THE FREE-FLOWERING CLEMATIS COMTESSE DE BOUCHAUD.

prostrate foliage, but this year they have been more numerous than usual. *E. corsicum*, in rather a fierce pink, has also done tolerably well for what is ever a hypochondriac with us. As for the big and splendidly healthy *E. Manescavi*, let those who will find fault with its magenta blossoms. A plant that will, under almost any circumstances, produce a mass of rich green, ferny foliage and an unbroken succession of gorgeous *pelargonium* in bold heads from spring to Christmas and yet never prove aggressive or troublesome, is a possession to be thankful for.

Fuchsia procumbens (?) has been especially happy this summer. It seems to enjoy plenty of moisture, for the more it rained in August the further it crept and the more numerous its weird little flowers to-day. The latter look like antique candle-snuffers in a glistening, waxen, golden-yellow, with triangular, reflexed adornments in chocolate and a shrill green. These will be followed by dull red fruits as big as hazel nuts. Another curiosity which came here labelled *Lobelia Cavanillesii*, and of which I know nothing, has expressed its satisfaction with the weather by producing tubular flowers in a startling scarlet with a yellow throat which yawns into the semblance of the beak of some strange bird. *Cyananthus lobatus* has also done well and is still giving us its rich blue

bells in brown furry cups. With red stems and glossy green leaves, *Polygonum sinu-capitatum* is spreading over a wide area and for many weeks has maintained a succession of club-like clusters of blood-erimson flowers, curiously dull and heavy in comparison with the beautiful rose-pink of little *Spirea digitata* hard by and the still more elegant and airy plumes of diminutive *Astilbe simplicifolia* in white, faintly suffused with a hint of blush.

Although conditions have been so advantageous for most of the rock garden *Violas*, the incomparable *gracilis* carrying on until well into August, none of these have maintained such a long period of blossoming as *Lady Crisp*, which is still a mass of bloom. This charming thing, in a cool blue-lavender, suggests in foliage and flower a near relationship to *gracilis* and the same must be said of the pale yellow, exceedingly chaste, *Perry's Yellow*, which has only just ceased flowering. *V. bosniaca* is also repeating the earlier brilliance of its vivid crimson blossoms and *Papilio*, of the *Cornuta* type, but much less rampant, is faithful to its traditional all-season blooming and the estimable habit that it has of never inter-marrying with its neighbours, though it reproduces itself so freely by seed.

Among the *Thymes* and divers others after their kind, *T. erectus* is now covered with white flowers, while among several *Micromeris* (or is it *Satureia*?) the confusion of whose names is beyond me, there are none which are other than perfectly satisfied with the aftermath of our hapless summer. *Calamintha grandiflora* has entered upon a second flowering, the fine rich purple blossoms being even finer than before. It is noteworthy how these and other *Labiates*, like the shrubby *Salvias*, *Peroyskii*, *atriplicifolia* and others, though usually considered suitable plants for dry, warm land, do so much more satisfactorily in our soil when the weather is wet during the flowering period.

Many of the *Cistus*, notably *cobariensis*, *lusitanicus* and *salvifolius* in white and crispus in rose are still in full flower, having produced an entirely new set of flowering shoots after their normal blooming season was over. As for *C. lalmifolius*, with its 12in. sprays of blossom, it is a blaze of yellow and looks like continuing well into late autumn. Where the greater space that is essential can be afforded, this is a freer and hardier species than *C. algarvensis*, which it somewhat resembles. Another shrub which has given us a good second crop of flower, despite the fact that it set seed freely at midsummer, is *Fremontia californica*. *Dendromecon rigidum* is at its best, and its beautiful rich yellow and fragrant poppy flowers never look quite so attractive as they do in autumn. *Desfontainia spinosa* could scarcely carry a heavier burden of its wonderful scarlet and yellow trumpets and it will flower well into late autumn. *Clethra almitolia* and *acuminata* have responded to the wet season by blooming with exceptional liberality, and another shrub which is always especially fascinating at this season is *Diplacus glutinosus*. *Solanum crispum* var. *autumnale*, which commenced flowering in May, is preparing for a second display of its pretty blue-lavender flowers, but *Sollya heterophylla*, on a south wall, having had insufficient sun, is only just about to open the first of its belated blue bells.

The *Clematis* season has been greatly prolonged, but I must confine my notes here to two plants. The one is the elegant *C. tangutica*, its graceful foliage clinging to an Ivy-clad wall and covered with not only a generous late crop of its rich yellow flowers, but the delightfully silky and iridescent seed pappus of the earlier blossoming. The other is *C. Comtesse de Bouchaud*. This is a large-flowered hybrid in an uncommon bright satiny rose, but it is notable not only for its colour, but the

abundance of its flowers and long period of blooming. Though now about ten years old the plant referred to (and illustrated) has every season borne an enormous mass of blossom from June to the present time. This year it is especially good, it is now full of flower and still has succulent buds coming

on to carry its season to the last days of autumn. Many other hybrids may be as early and as late as Comtesse de Bonchard, but no other hybrid Clematis here has maintained such a long succession of heavy flowering without a lapse as this one.

N. Wales.

A. T. JOHNSON.

Anemone-flowered one turns naturally to the Collarette type which, though it photographs badly, is, in its better forms, an attractive garden flower. The new semi-double Collarette variety called Novelty is particularly bright and pleasing, the contrast between the brilliant crimson of the main petals and the clear yellow of the collar being very attractive.

The full garden value of the Dahlia is even yet not fully appreciated. It has two drawbacks which have hitherto restricted its popularity. Perhaps raisers may in the near future do something to minimise both. They should certainly bear them in mind. These weak points are lateness to flower, and an inelegant foliage. Lateness to flower, remembering their vulnerability to frost, is a big disadvantage and the purchasing public would, in a garden plant, forgive a little imperfection of form if the colour were right and the plant were noticeably more early flowering than the average. Much has been done to improve the Cosmos, which suffered from the same neglect. Surely it is the Dahlia's turn now!

As regards foliage, improvement is likely to be a long business, since one cannot safely predict what sort of foliage the produce of a certain cross will display.

All the Star Dahlias so far produced are beautiful. Their selection is largely a matter for individual preference, but the new Dorking Star, silvery mauve, with a crimson eye (illustrated in last week's issue, page 466), is a distinct and beautiful addition. Quite indispensable are White Star, Yellow Star, Infield Star (pale pink), Cuckfield Star (soft yellow and rosy buff), Mauve Star, and Crimson Star.

THE EVER-IMPROVING DAHLIA

THOSE florists who worship the goddess size, whether in Gladiolus or Sweet Pea might, if they would, learn a lesson from the Dahlia. Is there anything more clumsy and ugly in appearance, despite, in many cases, its charming colouring, than the old Show or Fancy Dahlia so much in favour less than three decades ago? Yet, how beautiful and decorative a flower it is when reduced to a mere fraction of its bloated size, equipped with an adequate stalk and called a Pompon! In every respect, except in size, the two types of flower are the same, yet what a difference! Even the purely formal triangles of blossom used for exhibiting the Pompons at the Dahlia Show cannot hide their grace and beauty. It seems strange that these little gems are not more grown.

Unquestionably the greatest advance in public favour of recent years has been made by the light and graceful Star Dahlias. This is not to be wondered at. It would be singular had they not become increasingly popular. There is now a very wide range of colour in this beautiful type. Probably a good deal of this popularity has been achieved at the expense of the more "set" looking

exhibition singles, but a deal has certainly been won from the heavier Cactus and Decorative types. These latter are "feeling the draught" in another direction. The Peony-flowered Dahlia is being steadily improved, especially as regards strength of stem and poise of flower. In its present form it is particularly welcomed for use in the mixed (but mainly hardy) flower border, which has largely superseded the herbaceous border pure and simple. The new Miniature Peony-flowered type is another instance of the difference which comparative size of flower affords. The Miniatures are hardly likely, however, to supersede the typical large Peony-flowered sorts. They are far more likely largely to replace for garden purposes the Garden Cactus and Decorative varieties. The latter, indeed, must expect a menace in another direction, as the new Camellia or Miniature-Decorative class becomes more numerous.

There would seem to be an opening, too, for the Anemone-centred type which, though by no means of recent introduction, seems not, hitherto, to have made much progress. With the Dahlia as with the Chrysanthemum, new additions to this class should be assured of a warm welcome. From the



A TYPICAL STAR DAHLIA, MAUVE STAR.



SEMI-DOUBLE CRIMSON AND GOLD, DAHLIA NOVELTY.

AUTUMN COLOUR IN THE SHRUBBERY

(Continued from page 460.)

OF the newer Cotoneasters of more erect habit probably *pinnosa* and *applanata* are the best, but *acutifolia* and *Francheti* are both interesting and beautiful. So, for that matter is the old and sometimes despised *C. Simonsii* and the old but not often seen *C. rotundifolia*. *Cotoneaster frigida* makes a handsome small tree with multitudes of berries. There is a yellowish fruited form which is interesting but not striking in the shrubbery. *C. Henryana* has the merit of rather large evergreen foliage.

Few berried plants are more effective than the Sea Buckthorn, *Hippophaë rhamnoides*. Nor is its value confined to fruit laden beauty in autumn. The silvery-grey foliage is admirable as a background for many shades of brilliant colour, some of them not too easily accommodated in the garden. It should be borne in mind that this plant is dioecious, so that at least one male tree should be included in every group, or if massed largely, to every half dozen or so of female specimens. Unhappily groups of this have been known to be planted which ultimately turned out to be *all* male trees. Hardly a testimonial for the firm which supplied them.

Valuable for their jelly as well as for their intrinsic beauty, no garden is complete without some of the large fruited Crabs. Transparent, Red Siberian, Yellow Siberian, John Downie, Fairy, Transcendant and *cerasifera*, all are beautiful.

Visitors in autumn to the Scottish Highlands cannot but be impressed by the beauty of the Rowan, which we English, illogically enough, too often call the Mountain Ash. On the fat lands of the South, the Rowan is less effective, though still valuable, but it is seen to best advantage on sweet, but rather poor land. It is worth a little trouble to secure a good coloured form as this tree varies considerably in berry colour. Indeed, there is one quite useful variety with orange-yellow berries. Nearly related to the Rowan is the beautiful *Pyrus Vilmorini*, which was illustrated in *THE GARDEN* of October 8, 1921, page 501.

Of fruiting shrubs surely the most brilliant is the Spindle Tree, *Euonymus europæus*, with its coral fruits and bright orange exposed seeds. Probably more graceful and even quaintier is the American representative of the family, *E. latifolia*, but it is hardly so showy as the Spindle Tree. It should be borne in mind that both species are practically dioecious.

Writing of dioecious trees brings to mind the *Pernettyas*, so valuable on light soils for berried effect. These are readily raised from seed and shew a considerable diversity in colour and size of berry, but, on an average, about 75 per cent. of the plants so raised turn out males. Seedlings, however, are very prodigal with offsets and a good stock of female plants may quickly be worked up. The pure white *Pernettya* is valuable as a contrast to the crimson and rosy forms.

White berries are certainly effective because of their contrast with foliage. Herein lies the value of the Snowberry, *Symphoricarpos racemosus*, which otherwise is rather a weedy-looking shrub.

The value of berried Holly needs no elaborating, though its effect is more in winter than in autumn. The common green Holly usually berries best and it has a counterpart with yellow berries. This season all female variegated Hollies are bearing berries freely, which reminds us that Golden Queen is a male Holly! Sufficient attention is not usually paid to the beauty of the Weeping Holly, especially the green one. Observant people will have noticed

that this form—sometimes male and sometimes female—is not uncommon in hedgerows.

Very beautiful effects can be achieved with the great variety of Rose hips, always provided

The brilliant colour and wonderful gloss are outstanding. All the coats of paint and varnish of a first class coachbuilder could not hope to rival it. The single white form seems to fruit



BERRIES AGAINST EVERGREEN FOLIAGE, COTONEASTER HENRYANA.



THE WHITE FRUITS OF THE WOLFBERRY, SYMPHORICARPUS OCCIDENTALIS.

that the birds will allow them to remain awhile when mature. This, in many districts, however, they will not. Despite the many new introductions, the most handsome species in cultivation, from the point of view of its fruits, is the Japanese Rose, *Rosa rugosa*. It is not merely the size of the fruits which makes this species so effective,

equally as well as the typical purplish mauve. The Sweet Briar, *R. rubiginosa* and the Penzance hybrids, fruit freely and the fruits are handsome, though less so, perhaps, than those of the Dog Rose of our hedgerows. The clusters of hips on that beautifully foliaged Rose, *R. rubrifolia*, are lovely, though being deep crimson, less showy

than some, while the singular fruits of many Asiatic species, such as *R. R. macrophylla* and *Movesii*, attract by their singularity.

The Butcher's Broom, *Ruscus aculeatus*, is very beautiful when covered with its brilliant berries, but this again is a dioecious plant and it is necessary to have both male and female plants if fruits are to set. The fruits of the Laurel and Aucuba are showy enough in themselves, but not effective in the shrubbery, those of the Mezereum perhaps more quaint than beautiful. Of fruits, beautiful but not particularly showy, the following deserve mention: those of various Araliads, such as *Fatsia japonica* and the *Acanthopanaxes*, with ivy-like berries, green or black, and also of the tree *Jvies*; of the various Privets, *Ligustrum*, lustrous black; of the Honeysuckles, mostly red, but sometimes blue-black; and of the Elderberries, *Sambucus nigra*, black, and *S. racemosus*, red.

Many *Viburnums* have handsome fruits, but none surpasses and few equal our two native species in this respect. These are the Guelder Rose, *Viburnum Opulus*, and the Wayfaring Tree, *V. Lantana*, the former with red and the latter with black berries; these are red when partly ripe and the black and red berries side by side are effective. When procuring the Guelder Rose, care should be taken to procure the wild form, not the bloated, unfertile Snowball Tree (*V. Opulus sterile*). The brilliant berries of the *Skimmia* are fine for the American garden, but a sufficiency of male plants must be provided. Foliage colour is a subject worthy of a special article.

THE EVOLUTION OF THE GLADIOLUS—II

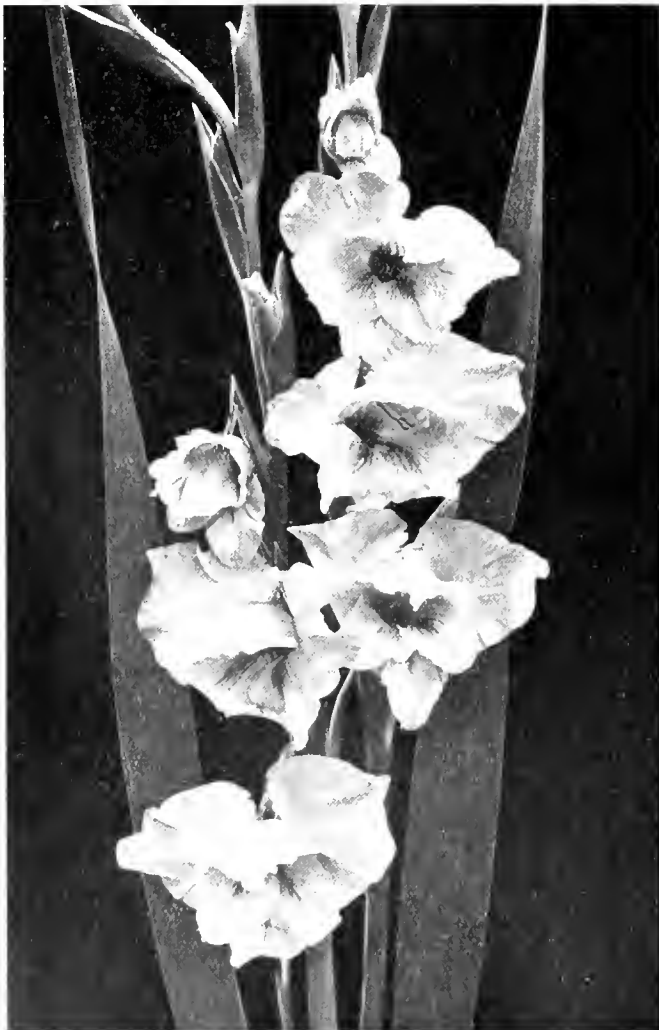
More about Primulinus Hybrids.

FOLLOWING my comments on the American and English hybrids of *G. primulinus*, it remains to describe a few of the best emanating from Holland. To the credit of the Dutch growers it must be said they adhere to the true characteristics of the *primulinus* type, but against that virtue many of the firms selling Gladioli have a nasty knack of mixing up their stocks with the result that one is never certain of varieties being wholly true to name. Last year I purchased a batch of a new yellow self hybrid which evoked such a peon of praise from its raisers that I was drawn, almost against my colder reason, into a deal. Out of a dozen bulbs one came true to what I take to be the variety itself, a nice deep yellow, fair in form, nothing else. The other eleven were pathetic looking weeds, whose latter end was the rubbish heap. The one specimen, true to name, was not cheap!

Of all the Dutch group I like the *Krelage* issues best. They, like all the worth-while sorts from that country, make no sacrifices on the altar of size. Neat in shape, well placed on the spikes and full of colour, few raisers have done better work along this line than the firm of *Krelage*. *Adonis*, brilliant scarlet, effective for vase work or for border decoration, is one of the newer ones and still a little expensive, but *Alante* is cheap and is

also a remarkably pretty flower in salmon orange, with a small gold blotch. *Daphne* and *Niobe*, introduced, like *Adonis*, last year, are great favourites with all our visitors and I think I like them best of the lot. The former is fiery orange red with purple blotch, and the latter, brilliant orange scarlet in the wings, has a very tetching suffusion of lurid bronzy yellow in the lower segments, giving the flower a distinct and attractive appearance. *Letitia*, salmon pink, and *Latonia*, soft rose, come within range of the more delicate tints, but in *Psyche*, *Sphinx*, and *Scarletta*, we have a grand trio in strong tones of salmon rose, scarlet red and dazzling scarlet respectively. *Salmonea* is self-descriptive, but there is an orange glow in it which makes it something more than mere salmon in colour and it is a gem under artificial light.

The name of *Grullemans* must always stand high among Dutch growers if only for their introduction of the three beauties whose price puts them within reach of the pauper almost. *Maiden's Blush*, *Orange Brilliant* and *Sunrise*.—*Maiden's Blush* is of loveliest, softest pink. What more beautiful could a description be than just its name! and it maidens do not blush much in the twentieth century, you can still find the colour in the cheeks of the healthy tennis girl. *Orange Brilliant* is small flowered, dainty, *chic*, robed in



A BEAUTIFULLY RUFFLED PRIMULINUS GLADIOLUS—LINTON.



BRILLIANTLY COLOURED—ALMOST SCARLET, *G. ZENOBIA*.

a garment as glorious as a sunset off Cape Sparte and a deal cheaper to obtain for residents in these isles. This little one, and Nydia from America, are the two most exquisite flowers for room decoration one can well imagine to exist. Sunrise is a larger flower as may be gathered by the picture of it here, but there is nothing heavy about it. Its colours, in fact, suggest something of the buoyancy of sunrise as against the restful depth of sunset glow. This particular Sunrise augurs fine weather—a radiance of sulphur yellow and pink; and it, too, makes a very nice centre to the dinner table, so it serves the useful and double purpose of keeping



GLADIOLUS SUNRISE.
SULPHUR YELLOW AND PINK.

up the spirits and giving a whet to the appetite. Gralleman also gave us Insurpassable, a word of some *naïveté*, but the Britisher can none the less imagine its meaning and it hints at the quality of a very fine flower, a different kind of pink from Maiden's Blush, a Caroline Testout pink, bright and clear. Kitty Gralleman and Tea Rose are both of very softly blended colours, with yellow and orange predominating, the former almost passing into a buff shade. From the same source too, Rose Luisante, another happy name, carrying the picture of the flower into the mud at once. Another Dutch introduction worth having is Souvenir, real golden yellow, with just a little of the frilled edging that lends an "air" to so many of the American sorts.

Touching the other two varieties illustrated I wrote appreciatively last autumn in these pages about Linton, one of the frilled or ruffled hybrids from America. This flower caught the eye of Mr. Wallace of Tunbridge Wells at one of our earlier exhibits this season at Vincent Square. He considered it one of the best of its type and it certainly

is a fascinating flower with a very beautifully marked throat. Zenobia I mentioned in my last notes as being a hybrid of richest colouring, an orange red, approaching scarlet, but I might

substantiate that by saying that it forms a beautifully proportioned tapering and slender spike which makes it very adaptable for decorative purposes. J. L. GIBSON.

ESSENTIALS OF GARDEN DESIGN

IV.—Restfulness.

TO great extent Restfulness in a garden is not in itself a principle of design. Rather is it the end of other principles, the ultimate aim to which all sound principles of design tend. So important an end is it, however, that it may be wise briefly to consider what makes for repose in a garden.

In nine cases out of ten an "uneasy" or "restless" garden derives some of its unfortunate quality from "spottiness." Such spottiness may be brought about by bad general design or by bad detail in planting. We have all of us seen the herbaceous border, probably the apple of its owner's eye, and with the plants quite well grown and yet which produced in our minds only feelings of repugnance and regret that excellent materials should be so badly and distractingly employed. There is no necessity to labour the point. The planting of herbaceous borders in bold groups has become the correct thing to do and, like the "mason's yard" rockery, the spotty border will soon become extinct. Again, we have all seen the herbaceous shrubby border laid out by the man who, "abhorring straight lines" and not having the wit to employ bold and gracious curved ones, finished his border with little meaningless rounded teeth like those on a worn scythe blade. This latter is perhaps further from utter extinction because people without the slightest constructive ability will attempt to lay out their own gardens. To "lay out" a garden or to design *anything* for that matter, something more is needed than critical ability. There is all the difference in the world between knowing what looks right or seems wrong and being able to design correctly. Nothing is more astonishing than the ease with which educated people who would frankly admit their inability to lay bricks, for instance, "because they had not been taught," will take it for granted that they can, without any special knowledge, satisfactorily lay out their own gardens and, permission granted, their neighbours' also!

Spottiness is usually brought about by senseless repetition. The more beautiful and important the plant or material employed, the less it will bear repetition. Ribbon borders of *Violas* in their place look quite restful and satisfactory, but *Lilies* treated in the same way lose more than half their attractiveness. The *Viola* is a beautiful flower enough, but in some way one realises its subservience and its fitness for producing a continuous mass of colour. With the gracious *Lily* it is quite otherwise. Even the *Rose*, beautiful and graceful though in some forms it be, may well be used for producing massed colour. Not only the dwarf *Polyanthas* with no special beauty of floral form, but some of the most exquisitely shaped and coloured *Teas* and *Hybrid Teas* may be used in formal beds to produce masses of crimson, pink, white or yellow. Yet no one could contemplate with equanimity a double or treble row of giant bushes of *Alister Stella Gray*, for example! Wherein then lies the difference? Surely it is mainly one of height. By close pruning those *Roses* usually employed for bedding may be kept quite dwarf. They may then be treated as subservient, though a close inspection will reveal the individual beauties of the flowers.

Speaking very generally, monocotyledonous plants are less suitable for subservient massed effects than the dicotyledons. *Lilies*, *Gladioli*, *Irises*, *May-flowering Tulips*, *Torch Lilies*, *Yuccas*, *Pampas Grasses*, *Arundos*, *Bamboos* and *Palms* should all be used in comparatively small groups, so that graceful habit or elegant blossoms may be seen to greatest advantage. Exceptions to this rule are early-flowering and dwarf genera and species such as *Crocuses*, early-flowering *Tulips*, *Hyalanthus*, *Narcissi*, and such *Irises* as *reticulata*, *pumila* and the dwarf ones of the *Bearded* group. Even so, *Iris reticulata* is too beautiful in itself to use merely as an edging or foil to other plants. Though grouped boldly, it should be treated as the effect in itself, not as a means to its attainment.

Of dicotyledons of the highest class the number is smaller, and the list would include few truly herbaceous families or species, though obviously such sub-shrubby plants as *Romneya* or *Lavatera Olbia* would hardly be employed in a subservient capacity.

Leaving plants quite on one side for the instant, the repetition of ornamental features in stone or wood will be distracting and displeasing, always supposing the objects referred to *have any particular individual beauty*. We may safely use a pleasing stone paving to any extent which seems called for by comfort or convenience, but the repetition of statuary, fountains, sundials, pergolas or what not can only be unsatisfactory. Not only does such overuse make for lack of repose, but it prevents proper appreciation of the individual specimens. The use of statuary at intervals along the top of an important terrace wall is a possible exception to this rule, but the writer has doubts as to its legitimacy, and in any case it is a question of little more than academic interest in these days of comparatively small houses and gardens. The abuse of noble materials by using them for entirely subordinate purposes is one of the commonest causes of want of repose. It is the old disadvantage of marble halls which were surely built rather to admire than to live in!

Speaking generally, a hillside garden is less restful than a moderately level one. Not that, unless the garden be absolutely cliff-like, it need be otherwise than entirely satisfactory in this respect, but to produce a reposeful effect it must be adequately terraced and the general up and down contour of the garden should be concave, otherwise unsatisfactory, badly arranged and unrestful glimpses will take the place of what should be a comprehensive view of the lower levels from above. The breaking of the terraces by belts of trees to define vistas or to frame more distant views is, of course, quite a different matter and bears no relationship to this viewing of part of a scheme of planting with the foreground left out.

Almost everyone will have remarked the restfulness which appears to attach to the average sunk garden. To great extent this is due to the hollow (concave) outline such a feature imparts to the garden as a whole. Certainly nothing is much more unfortunate than a garden which is constructed around a mound, unless, of course, the house cap the mound, when by suitable terracing magnificent effects can often be attained.

Too much colour, particularly a surfeit of garish colour, will make the best designed garden uninteresting, especially if it be badly placed. The present fashion for the brilliant orange, apricot, hot salmon and other similar shades is good in itself. There is no harm in pure strong colour, so it be properly used, but it must be confessed that a little of such colouring goes a long way. In a garden an abundant setting of green and, in addition, some preparation of cooler colouring is needful properly to appreciate it. Colouring need not be strong to be pure, let it be remembered; indeed, some exceedingly brilliant colour is anything but pure, witness Crimson Rambler Rose and the Rock Purslane (*Calandrinia*),

for instance. Real crimson as seen in such flowers as *Lobelia fulgens* or crimson Snapdragons is at once rich and restful, but the colouring of *Geum Mrs. Bradshaw* or of some Torch Lilies (almost brick-red) is difficult to arrange without clashing, and in any case, unless used in strictest moderation, very tiring to the eye. Properly used there is no harm in the colouring of Paul Crampel *Pelargonium*, though in combination with blue *Lobelia* and white *Marguerites* it produces a harsh "starched collar" effect anything but pleasing to an educated eye. Yet for lighting up what might otherwise be a drab and uninteresting corner this plant has few equals, and its colour, though brilliant is not garish.

NOTES ON DAFFODILS

The late Mrs. Berkeley of Spetchley.—Giant Leedsis.—Carnation.—Bernardino.

I SIMPLY cannot begin these notes after having read the account of Mrs. Berkeley's (of Spetchley) death without writing a few words to express the deep sorrow which I and all who were privileged to know this singularly quiet and lovable woman must feel at this sad event. I little thought when I saw her in her car outside the Hall in Vincent Square this spring that I would never see her again, and that it would be the last season for her beloved Polyanthus to have her to tend them. Under her own guidance I have seen the long wide borders in which they grow in the old kitchen garden at

Spetchley Park. I have seen, too, the stretch of choice Daffodils in another part of the grounds which told of the persistent interest of one of our earliest "amateurs" in these flowers. Of the ancient trees of historic interest; of the newest of the new plants to be met with in the woodland; of the fame of the gardens and their "ingenious" owner in the distant days of John Evelyn (Evelyn's "Kalendarium," eighth edition, 1691, page 68); of *Ribes Jessoniae*; and of many other matters it would be out of place to say more in a Daffodil article. I will just remind readers that in the years 1902 and 1903 Mrs. Berkeley won the first

prize in the fifty class at the Midland Show, following these successes up by winning the first prize for twelve new varieties in 1904. The varieties shown were *Silhou*, *Rhymster*, *Earl Grey*, *Sir Francis Drake*, *Robert Berkeley*, *Great Warley*, *Eleanor Berkeley*, *Aurora*, *Countess Grey*, *Charles Wolley Dod*, *Incognita* and *Noble*. In 1922 she got an award of merit for the exquisite white trumpet *Robert Berkeley*. It is a big jump 1904 to 1922, but it shows that she had still an eye for a good flower, and that her early enthusiasm and interest had not abated. The Daffodil has lost one of its earliest and best friends, and the human world is the poorer, for of her it may truly be said in the self-same words with which Jean Ingelow describes "my some's wife, Elizabeth" in her pathetic description of the devastation caused by "The High Tide on the Coast of Lincolnshire" in 1571, a "sweeter woman ne'er drew breath." *Requiescat in pace.*

GIANT LEEDSIS.

How is it that all the Giant Leedsis keep so dear? I see the old *White Queen* offered in one



THE BEAUTIFUL DOUBLE NARCISSUS CARNATION.



NARCISSUS BERNARDINO, A GIANT INCOMPARABILIS.



GIANT LEEDSIS NARCISSUS PHYLLIDA.

catalogue at five shillings a dozen and in another at six and six, but after that there is a jump to ten and six, ending up by a sovereign for *Kingdom* (Sydenham) and a guinea for *White Pearl* (Barr). We want more of the five shillings. They would then go off like hot cakes. This type of Daffodil is one of our modern creations and was unknown until Engleheart suddenly produced *White Queen* before an astonished world. The whole tribe, more especially the taller ones like *The Fawn* and *Kingdom*, make grand garden plants, and I feel sure when the drop comes they will be, as undoubtedly they ought to be, planted as freely as that grand old hybrid Emperor, *Phyllida*, which was raised by Mr. W. F. M. Copeland, received an award of merit for show in 1916 along with *White Pearl* and *White Pennant*, both Giant Leedsis. In my notes I see I classed it as an *Incomparabilis*, but Bath's, who now hold the stock, class it as a *Leedsis*. There are several of these border-line varieties which are

as difficult to place as a horse in the Grand National. Phyllida has the look of a glorified Minnie Hume with a gramophone shaped lemon cup, which with age fades to a primrose. The perianth segments are pure white, and are alternately rounded and pointed.

CARNATION.

One is glad to have the opportunity of saying a good word for an old friend. It came from the highly favoured county of Cornwall, where atmosphere and tempered sun work together for the Daffodil's good. It can live and flourish elsewhere though, and a prettier double no one need wish to see. The palest of buff-coloured petals with the little orange-red tongues of flame at their base form a happy combination which experience has proved to be constant. The flower has in well grown specimens a diameter of 4ins.

BERNARDINO.

In a Bernardino year there is very little doubt about Bernardino being one of the most beautiful

of all Daffodils. If only the exquisite ruddy apricot of its large cup had the staying power of the red in the cup of Lucifer, the ointment would have no fly. This last season I am told our few flowers here lacked colour. No doubt it was the result of the cold inclement weather that everyone seems to have had during March and April. So to anyone who only knows Bernardino from seeing it in 1922, I say, "Please do not judge it by what you saw then," and Bernardino itself says, "I am not a politician and my order habits are good." Character paper.—Health and constitution: Excellent. Shape, size and height: All that could be desired. Perianth: White and imbricated without stiffness. Behaviour in the open: Splendid. Behaviour under glass: Indifferent. Any other remark: Buy it even if it costs you half a dollar. The above facts are true to the best of my knowledge and belief—Narcissus incomparabilis, foster-parent of the above-described Bernardino incomparabilis major. JOSEPH JACOB.

is omitted and we get, as in the heading of this note, simply *Ixiolirion tataricum*, *Ixiolirion Pallasii* or *Ixiolirion Ledebourii*. It only means a difference in shade. I grow them in 5in. or 6in. pots in an all but cold frame; but they are very nearly hardy, as in a made bed of light soil they have survived a mild winter. They are much of a muchness with *Freesias* in their height of flowering stem, but they have not the sun-stiff, small, sword-like foliage. Their leaves are long, linear and arching. All the same, a friend seeing a vase in my study exclaimed, "I say, what have you got here, blue *Freesias*?" He might better have said "pretty purple," but *Freesia* is a trifle nearer the mark than *Ixia*.—JOSEPH JACOB.

A TINY GOLDEN-FOLIAGED BEDDER.

THOUGH the Sandworts are rightly regarded as rock garden plants, the golden variety of *Arenaria caespitosa* can be utilised in quite another way, as may be seen in the make-up of the floral clock that attracts its thousands daily in West Princes Street Gardens, Edinburgh. Although carpet bedding is all but a thing of the past, this pretty little plant is quite suitable for a dwarf edging plant on well drained soils; it is easily increased by division.—CALEDONIA.

SWEET PEA ROYAL SCOT.

I CRAVE a small amount of space to acknowledge Mr. Harry Scholefield's courteous correction (page 455) of an error which lead me to

do an injustice to one of the most beautiful and useful of Sweet Peas. I have proved Royal Scot to be one of the kindly varieties in that it grows vigorously in almost any soil, flowers profusely provided that it is closely gathered, and it does not burn in the least—on the contrary, it shines out in full glory only when the bright sun is shining directly upon it.—H. L.

THE FLORISTS' RANUNCULUSES.

REFERRING to Mr. Jacob's remarks on the subject of Ranunculuses (page 451), I agree with him that they are difficult. Even when grown in soils and situations that suit them they seem to be very sensitive to unfavourable climatic conditions, the character of the weather during the time

would have been called *Campanulolirion* or the Bell-flower Lily. In both form and colour the *Ixiolirions* remind me so much of *Campanulas*. Very likely if I had a wider acquaintance with this huge family I could get a perfect match as far as the individual flowers go, but their umbel arrangement is the peculiar adjunct of the Lily. It, however, lacks the measured stiffness of a *Nerine* or the Wild Garlic of our hedgerows. It has a slightly dishevelled look, and this gives it a charm akin to that of the ideal flower-seller of the street as against that of the stately flower-wearer at a "swell spread." Catalogues confine themselves to some variety of the species *montanum*, all of which are of some shade of campanula purple. Usually *montanum*, the specific name,

they are making growth determining success or failure. Although fond of sunshine they seem to dislike the cold, dry atmospheric conditions which frequently go with it in springtime, and a spell of east wind is very bad for them, even if the plants are sheltered from it. I am so fond of them that I always plant a few every year, although I have frequent failures with them. Has Mr. Jacob tried them in pots? If not, I can recommend him to do so, for they make charming little specimens grown with three tubers in a 48. I pot mine late in autumn in light, rich soil, keep in a cold frame until about the end of February, and then put them in a cool greenhouse near the glass until the flower buds are ready to open. I am more successful with them in this way than when trying to grow them in the

CORRESPONDENCE

THE TAMARISK.

I WONDER why that interesting and beautiful shrub, the Tamarisk (*Tamarix gallica*), is so conspicuous by its absence in our gardens? I have visited a large number of gardens, great and small, in the East of Scotland and I have only come across this plant in three of them, viz., the Edinburgh Royal Botanic Garden, a villa garden in Portobello and another in Musselburgh. In all three the soil is of a sandy nature, to which the plant is undoubtedly partial, but I fancy it would succeed quite well in any loamy soil, in fact, Nicholson says: "It will thrive under almost any conditions." It is a very suitable plant for the shrubby or wild garden, its catkin-like spikes of pink flowers being very attractive.—CHAS. COMFORT.

THE "CLOVE" REDIVIVUS.

THE old dark crimson Clove is dead: long live the Clove." Mr. James Douglas is "following in the footsteps of his dear old dad," and Great Bookham is still a most important centre for the choice border Carnation. Not the least service that the son has rendered to his fellow-gardeners is his evolution of the new race of Bookham Cloves. Just when we were bemoaning the loss of our old grandmother's plant—the dark sweet-scented crimson Clove—Mr. Douglas comes along and places before us this new race. One and all have that same spicy aroma which the old plant had so abundantly, but they have not all got it in the same degree. From personal observation I should place White Clove first and Blush Clove second. The perfume of the white is very strong. There is, however, another pure white variety called Crystal Clove which, as far as looks go, might be chosen in preference: but it would be a mistake if it is scented, more than perfection of form, that is the great desideratum.—MAELOR.

A SPLENDID CUT FLOWER.

HOW seldom one comes across that ideal flower for cutting, *Ixiolirion tataricum*, in the gardens of our friends, and yet a nicely arranged vase is bound to please the most fastidious unless, ladies, it is that Moloch of a drawing-room which imperiously calls upon you to sacrifice so many beautiful flowers before his coloured altars. Alas! drawing-rooms, bedding out and colour schemes have many plants to answer for. One that I hope will escape the holocaust is this *Ixiolirion*



A VASE OF IXIOLIRION TATARICUM.

open ground, probably because the conditions are more under control. Both the Turban and French sections do well in pots. I have not tried the Persian kind, but see no reason why they should not succeed also.—A. D. FORT.

THE LIGURIAN HAREBELL.

WHY is *Campanula isophylla* reserved almost entirely for greenhouse and conservatory? In the rock gardens of Raby House, near Chester, it blooms profusely, forming long streams of starry blue and white, the typical lilac blue *isophylla* being mixed with the white variety. It is also flourishing on the walls, which are built somewhat differently from the usual stone wall, the stones being set decidedly on the slant and so catching a liberal amount of moisture. Among other plants that have bloomed remarkably well is *Sisymbrium Bermudianum*, which is situated in a semi-shady position beside the stream. This charming plant commenced flowering early in June and still opens its petals to the sunshine. *Primula involucreata* and *P. kewensis*, after a short rest, both again attract the eye.—GERRY.

FROM JAPAN.

TO Japan we owe many of our most attractive flowers and it is from that land that the subject of this note, *Anemonopsis macrophylla*, has come to rejoice the hearts of flower-lovers who are devoted to hardy plants. It must be many years since first I saw the *Anemonopsis*, and it must be some seventeen or eighteen years since it was added to my garden. Yet it is not by any means a common plant, although I have always found it quite hardy and moderately free-flowering. I say "moderately" free-flowering advisedly, as it is not a plant which covers itself

with bloom, after the manner of many plants. Yet it gives a fair number of its pleasing flowers for a considerable time in late summer and autumn. In appearance it affords some justification for the generic name, as it is really "Anemone-like," and many take it to be one of the charming race of Windflowers. The blooms, which are of a form resembling in a far-off way those of a Japanese Anemone, are much smaller than those of *A. japonica*, and are of more substance. They are in some plants white and in others tinged with lilac, but I have never come across a plant with flowers of lavender blue, such as is described by the late Mr. Farrer. But that departed writer is correct in drawing some resemblance from the glossy foliage to that of an *Actaea* or *Cimicifuga*. Mr. Farrer apparently considered it rather difficult, but the present writer has found it easy to cultivate on ordinary loam, and the other day he saw a good plant in a rock garden, flowering freely and apparently quite happy. It was one of the forms with lilac-tinged blooms. A height of 14 ins. is given in some works, but I have seen it rather more and as little as 6 ins. or so.—S. ARNOTT.

HARDY CRINUMS.

OF the behaviour of *Crinum Powellii* in heavier soils I have no experience, but in a light sandy soil that is always well drained, it thrives amazingly. Some clumps that had stood for a number of years were lifted last November. The closely compacted masses of great bulbs were something like 2 ft. through and so heavy that after digging all round and loosening them, it was a two-man job to roll them out of their holes. Their main place, a border facing south backed by a 7 ft. wall, was freshly prepared and some of the bulbs replanted. Now, after nine months they are well in flower. Formerly I thought they were tender and gave them a winter covering of dried bracken, but this has proved to be unnecessary. The bulbs, planted at a good spade's depth, go down, so that when lifted they have a white neck a foot or more long. They are wonderfully tenacious of life. A heap of damaged bulbs, some of them chopped in half in dividing the clumps, were thrown aside, on to an open border in the kitchen garden. Within three months they were all trying to grow. Roots were pushing, wounds had closed and looked perfectly healthy, and, where a bulb had been badly gashed, a quantity of young growth was forming, that looked as if it would become a cluster of small bulbs, just as a *Hyacinth* does when slashed across.

These splendid plants should be more widely grown. They want space, for the glossy leaves are 5 ft. to 6 ft. in length. A sloping bank in deep sandy soil they seem thoroughly to enjoy, though in any warm soil they do well on the flat. They are in bloom throughout August and till late in September. No flower is of finer effect for cutting and they last as long in water as on the plant. For arranging them indoors it is worth while growing a patch of one of the Maize-like Sorghums, such as the French Sorgho à bôles; the foliage is not so large as that of Maize and it is also of use in the same way with Dahlias or any of the bolder flowers of late summer.—G. J.



A WONDERFUL BRANCH LOAD OF BULLACES.

AN AMAZING CROP.

I AM now sending you a few particulars of the Bullace tree of which Mr. Peter R. Barr recently sent you a branch. Its height is about 15 ft. to 18 ft.; its age unknown, but thirty years at least. The soil is loamy, with a good deal of gravel, and the tree one of several (mostly Green Gages) all growing one into the other, and much neglected and standing in the middle of my kitchen garden of half an acre at Harston, five miles south-west of Cambridge. What no doubt has assisted in producing this enormous crop (of everything) is the recent boring of an artesian well. I had to have two "blows-out," and consequently the garden was twice flooded. But, of course, we are "smothered" in Plums, Apples and Pears of all sorts. The branch you have was taken at random.—W. FISHER.

"THE LACHENALIA IN NATURE."

I SEE from your issue of August 5 (page 358), which has just reached me, that I must have made a most stupid slip in my letter which you were good enough to publish. The subject of the letter was the *Nerine* and not *Lachenalia*, and I must apologise for the mistake. The account would not have been at all correct as regards *Lachenalia*, the various species of which, as far as I have met them, are confined to low-lying situations.—LIONEL BAKER, *Groot Drakenstein, Cape of Good Hope*.

FORTHCOMING EVENTS.

September 28.—Royal Botanic Society's Meeting. Bristol and District Gardeners' Association's Meeting. Wargrave and District Gardeners' Society's Meeting.



CRINUM POWELLII NINE MONTHS AFTER REPLANTING.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Mushrooms.—To provide an autumn and further successive crops a house or cellar must be made use of, as by the time additional outside beds are made and brought into a bearing state the weather conditions will be too uncertain. The accumulation of sufficient manure to form a bed generally takes some little time, and during such the material should be turned occasionally to sweeten and be brought to a more equable temperature and suitable condition. A depth of 2ft. or less is enough, and the bed should be put together in even layers and made very firm. Insert spawn when heat of bed is inclined to fall a little at a temperature of about 80°, and complete the bed by putting in of fine new soil on the surface, making this also firm.

Cabbages from seed sown as advised some weeks ago have enjoyed the showery growing weather, and are therefore ready for removal to their permanent quarters. It will not be necessary to allow more than about 15ins. for the development of the generally compact growers forming the early batch, but a few additional inches may be given the successive lots.

Parsley.—If not already done and a few frames being available, lift a batch of young, vigorous stuff from the summer sowing and transfer them to the frames, using some good rich soil. At the same time make use of the base of any warm wall or building for more plants should the call for this garnishing herb be constant and heavy all through the winter and early spring.

Beetroot.—The heavy rainfall experienced has tended greatly to the swelling of the mid-season section, and the sooner they are out of the soil the better, for coarseness of growth must inevitably lead to deterioration of flavour. In lifting Beetroot care should always be taken that the main root is not damaged.

The Flower Garden.

Carnations and Pinks layered and inserted as cuttings as advised in an earlier issue will be ready for immediate removal to their flowering quarters. Should autumn planting prove inconvenient, or in the case of Carnations, where heavy loss has been experienced during winter, the layers should be placed in 4in. pots and placed in frames where an abundance of air can be given but dampness warded off. In the case of Pinks which cannot be finally dealt with at present, they may be accommodated in lines in a nursery bed. The present time is suitable also for the lifting, dividing and replanting of old clumps of Pinks should such be necessary.

Cuttings of Violas, Pentstemons and Calceolarias may now be taken, dibbling them all in sandy soil in cold frames a few inches apart.

Lifting.—Bedding plants of Heliotropes, Fuchsias, Pelargoniums, etc., which have been grown as specimen plants (and often this is the work of several years) must soon receive attention, as a few sharp frosts are often experienced by the end of the month. In many cases it may be possible by having protecting material at hand and conveniently arranged to allow such lifting to wait until the latter part of October, but without such it is unwise to risk what it may take years to replace.

Hedges.—It may be necessary to give a final trim up where growth has been somewhat free since the main trimming was carried out owing to climatic conditions being so very favourable for shrub growth. Do not use the shears upon such as Laurel, but rather make knife or scateurs answer the purpose.

Fruits Under Glass.

Late Grapes.—The present season has probably been as unfavourable for these as last year was favourable, and unless a fairly free and judicious use has been made of fire-heat to balance the great scarcity of sunshine, I fear that many growers will have only moderately finished produce, which in its turn will mean only moderate prospects for late keeping. Where the fruit is very backward much may yet be done for several weeks to improve matters by strict attention to the maintenance of an even, buoyant atmosphere brought about by keeping a good warmth in the pipes and a careful use of the ventilators. All unnecessary lateral growths should be rigidly suppressed, thus freeing the plants' energies to ripen fruit and wood.

Melons.—Here again lack of sunshine has told its tale, and growth of the late plants may easily

have been much better. Failing sunshine, plenty of pipe heat must be used to grow Melons satisfactorily, or the results will be poor and the flavour quite second-rate. Where the fruits are approaching the ripening stage maintain a warm moving atmosphere and water only to prevent flagging.

H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Lifting Onions.—No hard and fast rule obtains as to the date when all the bulbs in a bed may be lifted, as some Onions mature much earlier than others. But in cases where the foliage has died down there is nothing to be gained by keeping them in the ground any longer. In ripening the bulbs a convenient method is to tie in bunches of six and hang over a wire so that they may get full advantage of sun and air to further the drying process. Lay aside bulbs that may have sustained slight damage for immediate use, and in due course store the crop in an airy, frost-proof shed.

Globe Artichokes.—Cut the spent flowers from the plants and assist with a generous watering of liquid manure.

Spring Cabbage.—Complete the planting of Spring Cabbage at the earliest possible moment so that the plants may get established before severe weather sets in.

French Beans.—Where these are growing in pits or frames, attention must be accorded them if the best results are to be obtained. Ventilate freely during the forenoons when the weather is favourable, but when syringing is resorted to the ventilators should be closed early in the afternoon. Where the young plants are inclined to be leggy they should be supported by small, twiggy growths of birch.

Winter Lettuce.—Plants raised from seed sown a few weeks ago are now ready for transferring to frames, and should be encouraged so that all the growth possible may be made before wintry conditions prevail.

Mustard and Cress.—Sowings should now be made in frames so that nice, juicy and tender growths may be had for salading during the autumn.

Parsley in Frames for winter use should be kept clear of weeds and stimulated by occasional waterings with soot water.

The Hardy Fruit Garden.

Root Pruning.—Although somewhat early for this work, a note should be taken of the various trees in need of this treatment, and the work can then be carried through before the end of the month. If the work is done while the trees are in full leaf they quickly recover, new roots being emitted soon after the pruning has been carried through. Where the soil is poor a quantity of good loam should be added. Also add a quantity of old lime rubble as this proves of much assistance to all kinds of stone fruits.

The Pleasure Grounds.

General Work.—Much attention is now necessary in this department if tidiness is to be maintained, owing to falling leaves and the effect of the autumn gales. All rough grass should be scythed wherever possible, as the work of raking leaves later on is thereby considerably reduced. Where lawns have received their final cut for the season they should be well swept and thoroughly rolled.

The Flower Garden.

Mixed Borders.—Annuals which have passed out of flower should be cleared away and the vacant places prepared in readiness for the reception of Wallflowers, Giant Pansies, Myosotis, Canterbury Bells and Sweet Williams.

Violets.—Where these are grown for winter flowering in frames, they should now be lifted with good balls of soil attached and placed in frames occupying a sunny position. Plant about 1ft. apart each way, keeping the foliage as near to the glass as possible. Violets enjoy a generous mixture of soil, that from an old Melon or Cucurbit bed suiting admirably. A sprinkling of old lime rubble may also be added. During the winter ventilate carefully, as damping often causes the loss of many blossoms. Keep red spider in check by syringing the plants frequently with Abol Insecticide or other reliable wash.

JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

THE GREENHOUSE.

Osmanthus Delavayi.—This plant, although hardy on walls, and even in the open in the south and west, is well worth growing in pots for the unheated greenhouse. In pots it makes neat specimens with small dark evergreen foliage and produces its fragrant white flower in wonderful profusion. The flowers are much larger than any other species of *Osmanthus*. It is easily propagated by means of cuttings at this time, or again during spring; they root readily in sandy soil, standing the pots under a bell glass in a cool house or in a cold frame.

Swainsonia galegifolia and var. *alba* are old greenhouse favourites, but seldom seen in general cultivation at the present day. They are long slender-growing plants and are possibly seen at their best when planted out in the conservatory and trained up pillars. They also make good specimens in large pots if the long growths are kept tied round the supporting stakes. They are easily propagated by means of cuttings which, if rooted at this time will make good plants for next year. The young plants should be pinched several times to induce them to make a number of shoots.

Abutilon insigne.—This is splendid for planting out in the cool conservatory, being ideal for training on overhead rafters. The long slender, flowering shoots hang down in a very graceful manner, while the large dark green rugose leaves are very handsome. Even though it never flowered, the plant is worth growing for its foliage. It is easily propagated at this or any other time by means of twiggy side shoots. The cutting pots should be placed in a close case, with slight bottom heat.

Abutilon vexillarum and its variegated variety are elegant, slender-growing plants, well suited for training on rafters in the conservatory or cool greenhouse. Their slender habit is a great advantage as they do not shade the plants beneath over much. Plants propagated at this time will be ready for planting out next spring. There are many beautiful garden varieties of *Abutilon*, with flowers of varying shades of scarlet, crimson, rose, yellow and white, but they are seldom seen in gardens at the present day. They are rather strong growing for training under the roof, for unless kept well thinned out they cast too much shade on the plants beneath. They are, however, excellent for covering back walls. In such positions they flower more or less all the year round. They can also be grown in pots for the stages. Cuttings rooted at this time make good plants for next year and, if stopped several times, make bushy plants in 6-in. or 7-in. pots.

Climbers on the roof of the conservatory or greenhouse that have finished flowering, should now be partially thinned out, this to allow all the light possible to reach the plants beneath, as it is very essential that all plants should now be freely exposed to light to harden their tissues for the winter. Thus, all shading material should be washed off, and where blinds are in use, they should be dispensed with as soon as possible. They should be carefully dried before being stored away for the winter.

Hippeastrums.—As they complete their growth, bulbs that have attained flowering size should be removed from the plunge bed and be stood out in cold frames, where they should be dried out, keeping the frame lights on, otherwise they should be fully exposed to the sun. They must be stored dry all winter. I find they winter quite well in frames, where the temperature can be kept about 40° to 45° Fah. Young *Hippeastrums* raised from seed this season should now be potted off into sixty sized pots. They should be grown steadily on without drying off until they reach flowering size.

Roses in pots should now be overhauled. Some of the top soil should be removed and the plants top-dressed with good rich soil, to which some fine bone meal has been added. The drainage should be examined and, if necessary, corrected, while any that are in bad condition at the roots should be repotted, using for this purpose good sound loam, with sufficient coarse, clean sand to ensure free drainage. Instead of leaf soil, some old Mushroom bed manure should be added to the compost; failing this, dried cow manure should be used and a 6-in. potful of fine bone meal should be added to every bushful of soil. The dwarf *Polyantha* Roses are excellent for growing in pots. They are all easily raised from cuttings, which may be put in a west border any time next month. They should make fine plants for lifting and potting up next autumn.

J. COURTS.

Royal Botanic Gardens, Kew.

A Shade-loving Alpine.—There are few alpine plants of which the enthusiast is more enamoured than Haberlea rhodopensis, which, upon its introduction, appeared to give huge delight to those who saw it and which has since that time claimed an honoured place among the choicer flowers of the rock garden. It is no bar to its popularity, but rather an incentive to its cultivation that it is a shade-lover and delights most in the cool, sunless parts of the garden, where it will thrive happily, whereas in the open, sunlit areas it suffers from the scorching sunshine and shrivels up unless most carefully tended and shaded from the heat of the day and well supplied with water. In the shade, on the contrary, it makes large, healthy charming foliage and produces plenty of its pretty flowers, which are not inaptly likened to those of the Gloxinia or the Streptocarpus. The deep green, toothed, hairy, thick, felt-like leaves well repay examination in themselves and their rosettes alone are no mean ornament to the rock garden, but the consummation of the plant's beauty lies in the grace and colouring of the lavender or lilac flowers with the spotting of gold which lightens up the colour of the throat and adds an additional charm to these blooms. Then there is a scarce and charming white variety, *H. rhodopensis alba*, although I must confess to preferring the coloured one; while there is also a fine species (variety according to some), which passes under the name of *H. Ferdinandi-Coburgii*, which is specially beautiful. It is not difficult to cultivate in a compost of loam, sand and peat, and is quite at home in a crevice of the rock-work or even between stones on the level. One of the finest plants we have seen was on the north side of a rock garden between stones and shielded from the sun by a shrubby *Spiraea* and partly overhung by the shrub. Here the Haberlea was a picture, with many rosettes of its distinct leaves and numerous lilac flowers. Propagation is effected by careful division of established plants or by seeds, but the seeds and seedlings require most careful treatment.

Trial of Raspberries and other Rubi.—We are informed that the Royal Horticultural Society desires to make a test of (1) Raspberries (both summer and autumn fruiting) and (2) other kinds of Rubi. Five plants of the former and three of the latter of each variety to be tried should be sent to reach The Director, R.H.S. Gardens, Wisley, Ripley, Surrey (Horsley Station, L. and S.W. Railway) by November 30th, 1922. The Director would be obliged if those desiring to send varieties for these trials would let him know the names of the varieties to be sent on the entry forms (which may be obtained from him) by the end of October.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—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.2. 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.

FLOWER GARDEN.

TULIPS FOR THE ROCKERY (J. G.).—Write to Messrs. R. Wallace and Co., Limited, The Old Gardens, Tunbridge Wells; Messrs. Barr and Sons, 12, King Street, Covent Garden, W.C.2; and Messrs. John Waterer, Sons and Crisp, Limited, Twyford, Berks, for particulars of copies of their bulb catalogues.

HERBACEOUS PLANTS FOR LONDON GARDEN (N. G., Kenington).—The best of all herbaceous plants for London seems to be the German Iris, for one sees it thriving under many apparently adverse conditions. Besides this, however, a fair number of the harder border plants will do quite well in the district named. A short selection would include *Anemone japonica*, *Aquilegia*, various

Asters (*Michaelmas Daisies*), *Campanula glomerata*, *Centranthus ruber*, the Day Lily (*Hemerocallis flava*), *Echinops Ritro*, the perennial Sunflowers and *Heleniums*, *Lythrum roseum superbum*, *Oenothera eximia*, *speciosa* and *taraxacifolia* (Evening Primroses), the *Megasea Saxifragas* (*S. cordifolia* and *S. crassifolia*), *Geum coccineum* Mrs. Bradshaw and *Rudbeckia Newmanii*.

WATER LILIES ATTACKED (G. J. R., Surrey).—The Water Lilies are attacked by a green fly (a species of aphid), and the best thing to do to get rid of them would be to spray the plants with a nicotine wash or Katakilla, but if the water contains fish these sprays would be fatal to the fish. In that case probably the safest thing to use would be quassa and soft soap.

EDGING FOR FLOWER-BED (B. C. F., Dorset).—*Saxifragas* generally would scarcely be in harmony with the bold habited plants in the bed, though the *Megasea* section would be a suitable exception. For the shaded portion the *St. John's Wort* (*Hypericum calycinum*) would be very suitable and successful. As an alternative or addition to the *Megaseses*, *Alyssum saxatile* and *A. s. citrinum* are to be recommended.

VIOLETS ATTACKED (B. T. T., Staffs.).—The Violets are attacked by the Violet leaf-spot, *Phyllisticta viola*. They should be sprayed with potassium sulphide (diver of sulphur) 1oz. to 4 gallons of water at weekly intervals after removing all the diseased foliage.

TREES AND SHRUBS.

PRUNING LAUREL HEDGE ("Enquirer," Sussex).—If the proposed pruning is not intended to be very severe, it may well be done now; but if it is intended to cut back into the hard wood, this should be delayed until the early spring just before growth recommences, as if done now there is a great danger of the branches bursting into fresh young growth, which would be killed by the winter frosts.

ROSE GARDEN.

ROSES DISEASED (A. G. L., Bournemouth).—The Rose leaves are attacked by the black-spot disease of Roses, due to the fungus *Actinomyces rose*. This is one of the most persistent of Rose diseases, and calls for unremitting attention if it is to be overcome. The best treatment for it is the destruction of all diseased leaves and the spraying of the plants (as a protective measure) with Bordeaux mixture every fortnight or so from May onwards. Some Roses are much more seriously affected by the trouble than others.

THE GREENHOUSE.

CHRYSANTHEMUMS ATTACKED (B. T. T., Staffs.).—The best spray to use for the aphid on the *Chrysanthemums* is nicotine soft soap, made by dissolving 3ozs. of nicotine and 4lb. of soft soap in water and making up to 40 gallons.

GRAPES UNSATISFACTORY (Torquay).—The Vines would receive a serious check when the leaves were scorched by the fumes from the sulphur just at the time when the buds in which the embryo bunches were forming, should receive all the nourishment possible. Prune back the side shoots when the wood is ripe late in December, surface dress the border with lumpy loam and manure mixed after thoroughly clearing away all rubbish, and apply clear water freely. Do not overcrop next year. Several pieces of flannel soaked in petrol and suspended from the wires 2ft. below the Vine foliage will cause wasps to leave the house. Soak the flannel twice weekly.

PEACHES IN POTS (T. F. D.).—Yes, Peaches can be grown successfully in large pots. They require more attention, of course, than trees that are planted out. Large pots are better than tubs, because the soil in them retains moisture better than it does in tubs, and the roots of these fruit trees should never be quite dry. If the trees are to be permanent in the house, brick pits about 2ft. long, 18ins. wide and 2ft. deep would serve better than pots. The latter should be quite 16ins. across. Duchess of Cornwall, Duke of York, Magdala, Dymond, Royal George and Alexandra Noblesse are fine reliable varieties. If it is decided to grow the trees in pots, specimens in pots should be procured and reported if necessary in November. Care should be taken not to subject the trees to great heat, especially early in spring.

PEACH TREE UNSATISFACTORY ("Shirley").—The variety (Late Devonian) is the result of a cross between Belle de Vitry and Late Admirable. The first named is not grown generally and the latter not as much as it used to be, as there are better varieties. Late Devonian is a good variety for September ripening, being large, deep fleshed and juicy when well finished. The great heat last year killed many old trees and crippled others under glass. Our correspondent appears to have done everything necessary to ensure success. Sometimes fruits fail owing to faulty connexion between Peach and stock, the free flow of sap being impeded. We advise our correspondent to give the tree another trial, autumn and winter watering being important as well as summer. Surface mulch next spring with lumpy loam and mix 2 pecks of chalk or 1 peck of lime with the loam, which should be put on 2ins. thick in January at the latest. If the tree disappoints next year, replace it with Peregrine or Grosse Mignonne.

FRUIT GARDEN.

LLOYD GEORGE RASPBERRY (Stoke Prior).—It would be well not to cut off the tops of the canes, even though they are just coming into flower, but rather allow them to remain untouched for the present and shorten them later on. As soon as the fruit had been gathered the old canes should have been removed.

MISCELLANEOUS.

FUMIGANT FOR GREENHOUSE PLANTS (Z. Y. X., Bristol).—If our correspondent insists on his condition as to a preparation absolutely destitute of poisonous

property to human beings or animals, we can only suggest that he sprays the affected plants with quassa and soft soap. There is, however, no difficulty or danger attached to the proper use of a nicotine fumigant, and we should ourselves fumigate with Darlington's Auto-sprays, which are effective, clean to handle and readily used. There is a certainty about nicotine not found in other fumigating preparations, excepting, of course, the deadly hydrocyanic acid gas.

HOW TO DESTROY WASPS ("Mauve Poppy").—In glass structures, or where the fumes of petrol are not objected to, wasps will soon leave such places if several pieces of flannel soaked in petrol are suspended from the roof several feet below. The fumes will not be harmful to fruit, flowers or plants as long as the house is ventilated. To destroy the nests, watch wasps as they leave the garden, following them as far as they can be seen, then stand at that point and watch and follow on again till they are traced to their nests. Mark the latter with pieces of white paper tied to sticks. All wasps are in their nests by 9 o'clock (summer time). Roll up pieces of rags to the size of a finger, one for each nest, soak the rolls in pure turpentine carried in a can. Insert a roll in the hole to each nest as far in as possible. Then immediately cover entrance with a spadeful of soil and make it firm by treading. All wasps will be destroyed in the nests if soil at entrance is not removed. The nests are generally found near water.

TRANSPLANTING IVY (Beginner, Berks.).—The Ivy could well be transplanted from the present time onwards until growth recommences in the spring. The shoots which are clinging to the wall are scarcely likely to attach themselves to the new wall. It would be a good plan to select the best shoots, fasten them to the wall fairly thinly so as to furnish it, and cut the remainder away close to the ground. The selected shoots would break out a considerable way down, and these new growths attach themselves to the wall, while from below new shoots would soon climb up between the older ones and the wall thus become quickly furnished. It is important to be sure that the roots are moist before the moving is commenced, and a good watering should be given as soon as the transplanting is finished. If the weather is very bright, it would be well to shade the Ivy with canvas or sacking during the middle of the day, and it should be syringed morning and evening for a time.

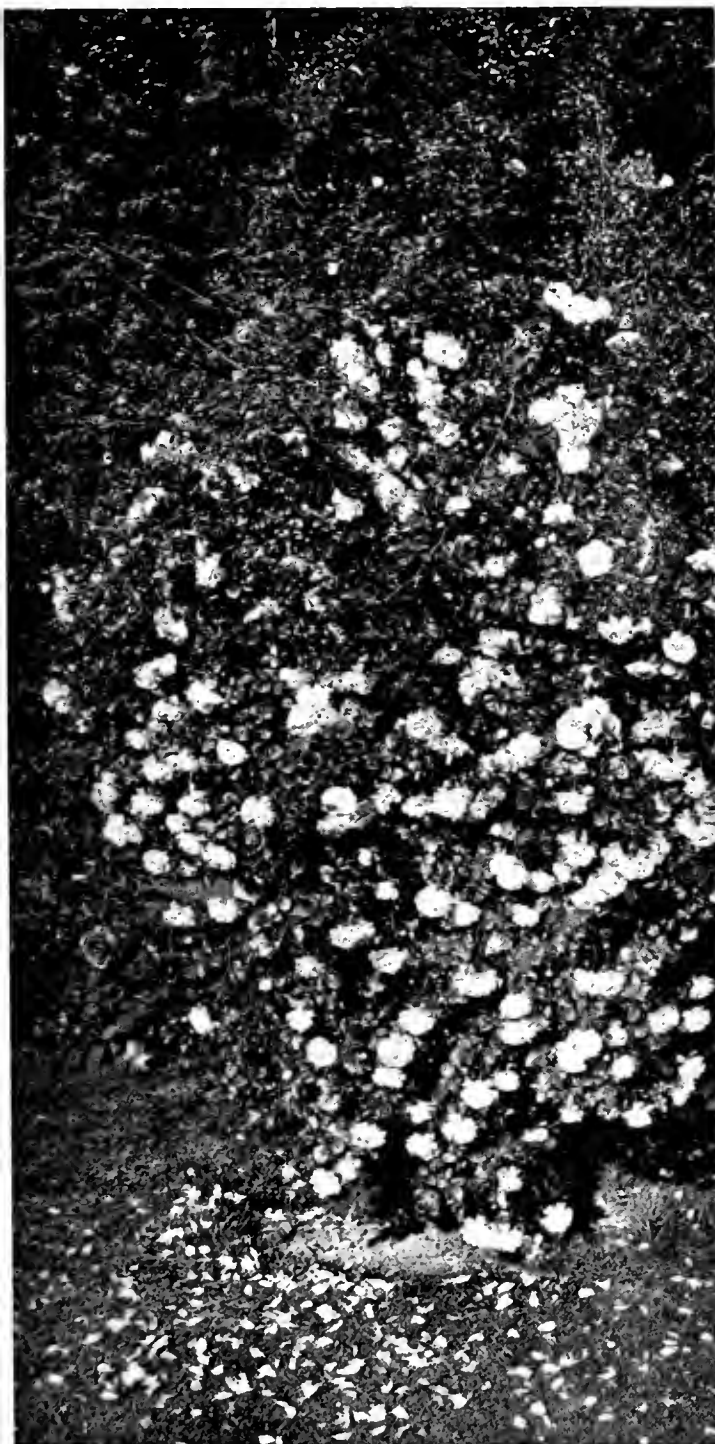
WORMS IN FLOWER-POTS (A. G. H., Broughton-in-Furness).—Prevention is always better than cure, so to ensure that there are no worms in pot plants the soil should be searched for them before it is used for potting. In most greenhouses the pot plants are grown on wooden staging so there is no likelihood of the worms entering the pots while the plants are in the glass houses. All pot plants that are placed in frames or out of doors for the summer should be stood on cinders in order to ensure perfect drainage and also because worms rarely travel through them. To get rid of the worms already in the pots the plants may be watered with lime water, when the worms will soon appear on the surface and may be collected. Another method is to turn the plant out of the pot, when the worms may often be seen. If they are in the middle of the ball of soil they will commence to emerge if the ball is gently smacked a few times or if a stick is thrust into it. The end of the worm should be held firmly for a few moments, when it will be found that the pest relaxes and may be easily withdrawn. No attempt should be made forcibly to extract the worm, as in such case it would break. Heaths and other lime-hating plants must not, of course, be watered with lime-water.

PLANTS FOR EXHIBITION (A. W. E., Cardiff).—A Phlox that should be at its best in our correspondent's district about the third week in July is Princess Alice, a variety bearing huge trusses and large cerise-coloured tips with an almost white centre. This is about the earliest of the *Decussata* section. Of course any of the *Suffruticosa* section would be early enough, but they are not so bold either in size or colour. In regard to Delphiniums, it is more a matter of age of plants and situation than of variety that governs the date at which they are in their prime. Young plants of Millicent Blackmore, The Alake, Bella Donna semi plena, or Smoke of War planted in a position where not more than half a summer's day's sunshine reaches the plants should provide spikes of useful quality at the time required, but it is prudent to grow more than one variety, as seasons and situations are variable. *Spiraea Aruncus* and *Astilbe Ceres* are both herbaceous perennials, and may be shewn as such. The question of eligibility of Sweet Peas in a class for annuals in variety when there are separate classes for Peas rests entirely with the wording of the schedule. The usual intention is to cater for annuals other than Sweet Peas in one class and to confine Sweet Peas to their own class, but unless it is explicitly stated that Sweet Peas are excluded, an exhibitor is perfectly justified in shewing them in the class for eight weeks of annuals in variety.

NAMES OF PLANTS.—X. Y.—Rose Irish Fireflame.
NAMES OF FRUIT.—Stoke Prior.—Plum the Zar probably, but partially rotten on receipt. Pears too immature to name. Send again when mature.—C. H. C., Dorking.—1, White Magnum Bonum; 2, Coe's Golden Drop; 3, Belgian Purple; 4, cannot name from specimen; 5, McLaughlin's Gage; 6, Transparent Gage.—R. A. B., Corle Castle.—Plum Angliana Burdett Gage; Apple, probably Prince Edward, not matured or coloured yet.

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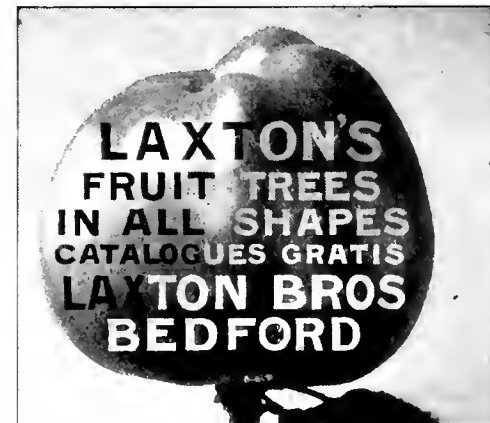
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WOODLAND PLANTING ON LIMY SOIL

WHERE soil is reasonably lime-free, the Rhododendron and its allies form the mainstay of the woodland garden. They go far to provide its floral beauty and at the same time furnish an admirable setting for Lilies and other desirable woodland plants. There is in this country, however, a great extent of woodland or copse of which the soil consists, under a thin stratum of humus-containing loam, of limestone or more frequently chalky marl. Unless planted to timber of comparatively recent years, there is little woodland on the chalk proper. In many cases houses have been built on the confines of such woodland and the owners would naturally wish to incorporate these shady reaches in their garden scheme. The necessity of substantial planting is the more evident when it is pointed out that bulbous plants generally dislike lime. Even the Bluebell of our own woodlands fights shy of noticeably limy soil.

Of furnishing evergreens for undergrowth in such woodland the common Laurels take high place. Colchic or Causasican succeed equally well and their large glossy deep green foliage shews to great advantage in such situations. Common Holly, too, will flourish. The large-leaved forms, such as *Hodginsii* and *Shepherdii* are not so suitable as the common form for undergrowth. The latter, of course, grows laxer and looser in shade than in the open and the leaves come larger, flatter and more attractive in colouring. Neither Holly nor Laurel fruits to any extent in woodland and their flowers, even if produced, are scarcely showy; their value, therefore, rests upon their foliage alone. In a different

category come those evergreen Barberries, *Berberis Darwinii* and *B. stenophylla*, which are admirable for an undergrowth, though they, too, flower less freely than in the open. The Mahonia, too, *Berberis Aquifolium*, is invaluable and the Japanese species, *B. japonica*, which in some forms flowers all winter through.

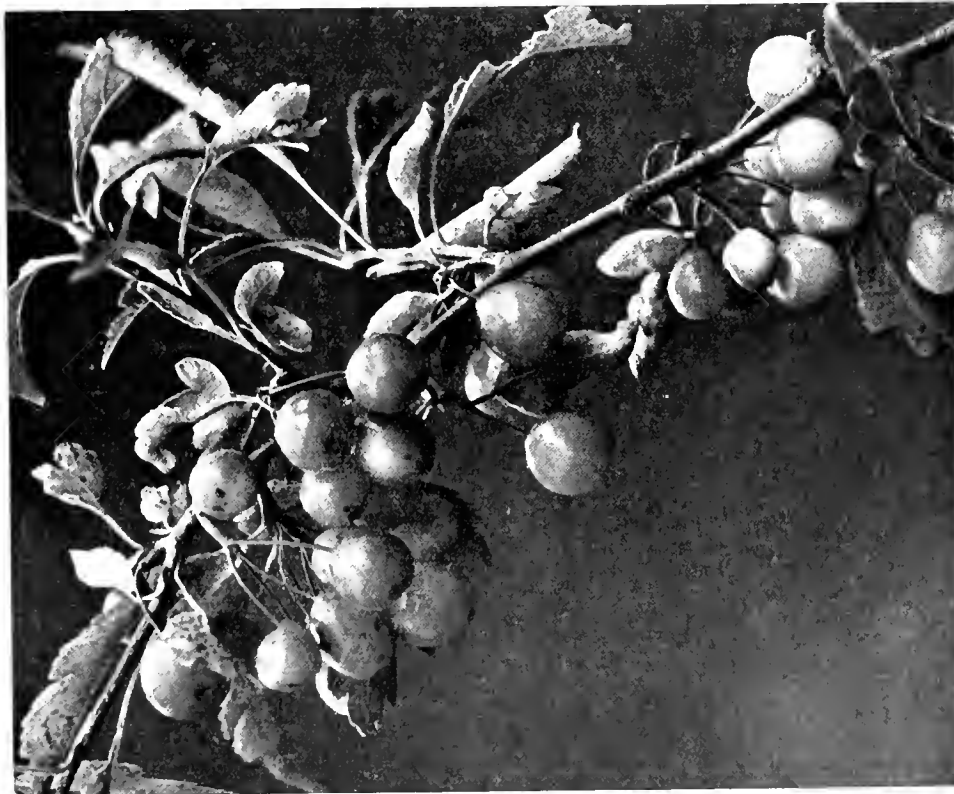
For the more open places the Escallonias are excellent, especially *E. macrantha* and its nearer relatives. The almost indestructible Rose of Sharon, *Hypericum calycinum*, is an invaluable carpeter and its large golden many-stamened blossoms shew to advantage in the semi-shade. For places where sunshine penetrates—and on limy soils the shade should not anywhere be too dense—the single "Corkrose," *Kerria japonica simplex* is excellent. Its bright green stems make it most effective in winter when destitute of leaf, while in early summer, when the slender arching

canes are thickly spangled with golden blossoms, it is one of the most beautiful of flowering shrubs. It is astonishing how many gardens harbour the bloated double form, which are destitute of this elegant plant.

The Bladder Senna, *Colutea arborescens*, is another plant admirably suited to the wild garden and quite at home upon limy soil. It likes semi-shade, but should not be immured in woodland recesses. Especially if it can get its "feet" to water, the Guelder Rose, *Viburnum Opulus* will flourish and, given a certain amount of sunlight, produce its elegant corymbs of flower and its brilliant red fruits in abundance. The true Brooms—*Cytisus scoparius*, *C. albus* and relatives—are essentially plants for sandy and gravelly soils, but the Spanish Broom, *Spartium junceum*, flourishes even on the chalk. In many parts of England it is not too hardy and the fringe of woodland looking south or west forms a suitable place for it. It should, of course, be planted to receive an abundance of sunlight.

The Privets (*Ligustrum*), object neither to lime nor shade and the oval-leaved Privet is satisfactory as undergrowth, particularly as its berries are quite handsome when freely produced, though they could hardly be classed as showy. The larger-leaved Eastern forms, *L. lucidum* and *japonicum* are also suitable and offer more beauty of flower.

Those best of shrubby Spiraeas, *S. Lindleyana* and *arborescens*, have no objection to lime and are, of course, grateful for a certain amount of shade, while the whole of the *Brunaldia* clan, from the crimson Anthony Waterer to the whitish *callosa alba*, will provide flower for a considerable period.



A NEW CHINESE FLOWERING APPLE, *PYRUS MALUS TRANSITORIA*.



THE EARLY FLOWERING BERBERIS JAPONICA.



FINEST OF SHRUBBY SPIRÆAS, S. LINDLEYANA.



THE CHALK LIKING VIBURNUM TOMENTOSUM MARIESII.

The Cornelian Cherry (*Cornus mascula*) and the Dogwoods (*C. sanguinea* and varieties), all succeed and are admirably suited for woodland planting. Probably all members of this family would succeed.

Groups of that quaint shrub, *Lycostera formosa*, might well be introduced. If planted in neighbouring garden, this invariably turns up in the woodland, doubtless from seeds dropped by birds. Neither flowers, fruits nor bracts are exactly showy, but the green arching canes introduce a pleasing diversity of vegetation without giving an exotic appearance. That so-called *Aralia*, *Fatsia japonica*, does well in woodland. It is less tender than most people believe, but needs a cool exposure, even the shade of trees, whereas, with the idea of sheltering it from cold winds it is often planted in full sunlight. It is quite handsome in flower and fruit, but should be kept for the more sophisticated part of the woodland, because of its distinctly exotic appearance. Where a sufficient opening in the tree canopy exists to admit the requisite sunshine, all the Thorns will flourish. Only single flowered varieties, however, seem to the writer desirable in such a place, though some planters would doubtless have other views. Suitable kinds include *Crataegus Crus-galli* and *C. Douglasii*, *macrantha* and *coccinea*, with the single scarlet form of the common Hawthorn, *C. Oxyacantha* var. *coccinea* of nurseries. Under similar conditions the Judas Tree, *Cercis Siliquastrum* will succeed. The reddish-purple flowers produced before the leaves in spring are not specially beautiful, but the twisted growth of trunk and branches, somewhat similar to that of an old apple tree, but characteristic of the tree in question, make it, when properly employed, a picturesque and valuable feature.

Almost all *Pyruses* enjoy a calcareous soil and, as they often unite beauty of flower with handsome fruits, are worthy of notice where free from drip and not shaded to any extent. The new *P. Malus transitoria* will be found described under New and Rare Plants in this issue.

The Oriental Guelder Rose, *Viburnum tomentosum*, is best represented by the fine variety *Mariesii*, but the totally sterile form, *V. t. plicatum*, which bears the same relation to the typical plant as does the "Whitsun Boss," *V. Opulus* sterile, to the typical Guelder Rose, also succeeds on limy soils.

In late summer a great deal of colour may be afforded by the judicious planting of Clematises. The Clematis likes a sweet soil and a considerable amount of shade, especially to the roots. For this woodland planting *Clematis Jackmani* and the varieties classed with it are most suitable. The typical plant—if we may be forgiven for speaking of a garden variety in such a way—looks beautiful when flinging its shoots aloft in association with that strong-growing *Wichuraiana* Rose *Dorothy Perkins*, and the Rose herself, despite her double flowers, looks happy enough when climbing in the topmost branches of a Silver Birch. This tree, it may be well to point out, may be established even on the chalk. It does not, however, "ped" so well on heavy marly soils as on lighter sandy ones. It has so many beauties, however, that if not already existing, it should certainly be introduced into woodland planting. To return to our Clematises, however! *Jackmani*, *Snow White Jackman* and perhaps *Comtesse de Bouchaud* would be our selection from this class for the purpose in this connexion. Beyond these in not too shady a spot *C. montana* and the flesh pink variety *C. montana rubens* might be tried. The latter has very admirable reddish foliage and young wood. *C. Armandi* would no doubt often survive our winters in woodland where (except against a wall) it perishes in the open garden.

Those two fine early-flowering Heaths *Ericas carnea* and *darleyensis* have no objection to lime in the soil, and the tall *E. mediterranea* has the same happy indifference, while the less showy *E. cinerea* will grow in the humus containing vegetation immediately overlying limestone rock.

A TRIAL OF NEW ROSES

British Introductions of 1920

ALTHOUGH 1920 could well be described as a prolific year as regards the number of new Roses placed on the market, the quality seems to have suffered for the quantity, and very few striking novelties or really first-class Roses were produced. The total number tested here (Oxted, Surrey) was sixty-nine, of which thirty-eight were British and thirty-one foreign.

Although, patriotically, one likes always to give preference to the home-produced article, it behoves us at the same time to watch what the trade growers across the Channel are producing, for, in the interest of the industry, with all new Roses the good must be acclaimed and the bad condemned and discarded for ever.

Would we had a judicial bench, to sit in judgment on all new Roses, entering the good on the roll of accepted and recommended varieties, sentencing the bad to deportation or the fiery furnace and, above all, to keep a full record of what is produced and what becomes of it.

Names should only be allowed which have not been used before, and the too-much-alike varieties would be consigned to the scrap-heap, as well as the undesirables—a simple matter for the powers that be to put into execution, and how amateurs who buy new Roses from the high falutin descriptions in the catalogues would bless them for saving them from buying trash, and helping them to spend their money on new varieties that are really novelties and good ones at that!

The seven points on which new Roses are judged here are: Novelty, growth, form, colour, flowering, foliage and fragrance. The latter essential qualification is, unfortunately, so often lacking that mention is only made of it when it exists. Taking the British Roses first in alphabetical order:

Archie Gray (H.T., Hugh Dickson).—Unfortunately the plant sent us was a poor one and the growth was weak, but it was shewn well at some of the exhibitions. A large, deep crimson bloom, of good shape, and large enough for an exhibition box. Hardly a free bloomer, and the foliage inclined to mildew a little.

Bronze Bedder (H.T., William Paul and Son).—A free-flowering single Rose of bronze colour—quite a novelty. The buds, which are long, pointed and crimson coloured, are exceedingly pretty. Growth is good and foliage clean. Sweet

scented. A good single Rose to mass for a bold effect.

Callisto (Hybrid Musk, J. H. Pemberton).—A strong grower, with branching habit. Small clusters of pale yellow blooms of rosette shape. Summer flowering only. Should be grown as a bush Rose, and is hardly suitable as a bedding variety.

Charm (H.T., William Paul and Son).—Rather a thin, sparse grower. The buds are pretty—reddish orange opening out to pale coppery yellow, semi-single blooms in good trusses. Sweet scented.

Clare d'Escotet (H.T., W. Easlea).—Growth



ORANGE AND APRICOT SHADES, ROSE INDEPENDENCE DAY.

not strong. Blooms are flesh white, rather flat, and inclined to lose their colour. Hardly any call for this as a new variety.

Climbing Chateau de Clos Vougeot (H.T., H. Morse).—Not a strong grower, and at present little sign of climbing at all. The usual horizontal growth of its namesake, but possibly it may start off next season, as some of these climbing Hybrid Teas have a habit of doing.

Climbing Ophelia (H.T., Alex. Dickson and Sons).—An excellent climbing variety of this splendid and popular Rose. Blooms are good and as true as the dwarf variety. The plant started off as if it had made up its mind to climb, unlike some of the so-called climbing Hybrid Teas, of which 50 per cent. never intend to climb at all. It should prove an excellent novelty.

Constance Casson (Perpetua, B. R. Cant and Sons).—A very strong grower, with large, globular blooms of bronze flushed yellow colour. The foliage is very fine, particularly the new growths. The blooms may be strong enough for exhibition, but their shape is inclined to be flat. It should make a splendid bedding Rose, and the colour is decidedly novel.

Dinah (H.T., William Paul and Son).—Our plant of this was a weak one, but in any event it seems to be a small and thin grower. The blooms are deep crimson, but they are inclined to discolour upon maturity. Foliage is clean and good.

Eleanor Henning (H.T., W. Easlea).—Semi-single, salmon pink blooms, with large petals. Medium grower, with good dark foliage. Not a very profuse bloomer, but very sweetly scented.

Esme (H.T., B. R. Cant and Sons).—A good strong grower, with heavy blooms of cream colour, flushed pink on edges of petals reminding one of Mrs. Foley Hobbs. It should make an exhibition Rose, but as a garden Rose a mass of it would be very attractive. Faintly scented.

Florinda Norman Thompson (H.T., Alex. Dickson and Sons).—Excellent growths and a profuse bloomer. Large trusses of lemon yellow flowers flushed rose and globular in shape. Thick, leathery foliage. A fine free bedding Rose.

Havering Rambler (Multiflora, J. H. Pemberton).—Summer flowering only. Very vigorous growth, with heavy trusses of pink and white blooms with bright yellow stamens, but unfortunately the blooms seem to lose colour quickly.

Hawmark Crimson (H.T., Alex. Dickson and Sons).—One of the best of the year's production. A darker coloured Red Letter Day of the same semi-single type, but a stronger grower, with upright stems. Fine long-pointed buds. Well worth growing as a bedding Rose, and a mass of them should be a sight for the gods.

Independence Day (H.T., Bees, Limited).—There seems a little doubt as to whether this is a 1919 or 1920 variety. Origin Mme. E. Herriot - Souvenir de Gustave Prat, but the blooms are held more erect than the former parent. Reddish orange buds, opening out to deep yellow blooms, with bright red stamens. Not a strong grower, but sweet scented.

Jersey Queen (H.T., Jersey Nurseries, Limited).—Strong growth, but apt to be lopsided after the style of Mme. Abel Chatenay—throwing one heavy shoot only. Big trusses of yellowish pink blooms. Sweetly scented.

Lady Anderson (H.T., Alex. Dickson and Sons).—Fair growth. Large coral pink blooms, strong enough for exhibition. Slightly scented.

Lady Maureen Stewart (H.T., Alex. Dickson and Son).—A strong grower, with good trusses of brilliant velvety scarlet blooms, the shape of which reminds one of our old friend A. K. Williams. Very sweet scented, and worth growing for that alone.

Lady Mond (H.T., William Paul and Son).—Semi-single bright red pointed buds, opening to yellowish pink. Fair growth.

Manifesto (H.T., S. McGredy and Son).—A good grower. Large blooms, shaped like Caroline Testout, flesh pink colour, with a deeper pink inside. A bedding Rose, but should be good enough for an exhibition box. Traces of mildew.

Miss Connor (H.T., Alex. Dickson and Sons).—A real protuse bloomer, with truss after truss of canary yellow coloured blooms. The buds are brighter in colour and foliage bright green. The blooms are cup shaped and not large, but would doubtless come bigger if disbudded. A splendid bedding Rose and sweetly scented.

HERBERT L. WEITERN.

(To be continued.)

THE PLANTING SEASON

PLANTING operations will be in full swing again shortly, and it has often been a source of wonderment to me why such work is not put in hand earlier than it usually is. Ground preparation takes some time, and often before the necessary trenching and formation are completed the best time for planting has passed. Many plants, and more particularly those with coarse roots, if put in at the right time will succeed, while if the time be missed they are unable to make a quick start in root action, with the inevitable result that the plant withers away and dies.

Given ripeness of wood, the early autumn in most soils is the best time to plant evergreens of all kinds. Hollies in particular can be moved without the loss of a single leaf. Yews also and, indeed, any conifer will make young roots in October, sufficient to ensure a commencement of growth in the spring, even if the weather should not be entirely favourable. Rhododendrons, *et hoc genus omne*, will go into new quarters in October without "turning a hair," as one says in the vernacular. After a wet summer, combined with an unusually low average temperature, the ripening of wood generally is at present not satisfactory, and care must be exercised not to be too soon with any plant that is not thoroughly mature. At the time of writing, however, the weather has taken a turn for the better, and a dry spell with a bit of sunshine and a drying wind will stop the flow of sap as effectively as anything.

Intending planters will have an opportunity of securing a more varied and better class of stock this coming season than for the past two or three years. Nurseries are still behind with stocks, more particularly in the purely ornamental stuff and of larger sizes, especially in properly transplanted condition; but if care is used in selection a good general all-round lot of plants is available, and now that there are signs of improvement in trade, and presumably there is some amelioration if one can believe the papers, it is to be hoped that the purely ornamental side of planting may commence again in real earnest. There may be in the present planting season a greater demand than can be filled for the best quality of stock, and that to my mind is another most excellent reason for getting well ahead with prospective work.

Ground preparation should be very thorough. It is no good doing any job in a half-hearted fashion, and this applies to planting as much as to anything. Dung or other manurial dressing must be used with discrimination. Some plants, such as Yews and Hollies, revel in coarse feeding, while others would be killed with the same treatment.

Generally speaking, if it is desirable to feed comiferous plants, it is best to mulch on the surface after the trees are well established, with ordinary stable or cow manure well rotted. I think better results are obtained by thorough preparation of the soil in regard to breaking up and trenching than by the use of artificial stimulants. Most trees and shrubs will grow well on ground thoroughly cultivated, and failure can very often be traced to the want of proper care to this end.

Planting itself must be done carefully, and one should ensure that the roots of plants when placed in position have room for proper expansion. If the hole in which a plant is put is too small, the roots are thereby restricted and cramped. The depth at which plants should be put in is also important. If too deep, root action is very slow, and in many cases I have found trees and shrubs planted so deeply that no fresh root was apparent even twelve months after. If too

shallow, the young fibres become exposed to sun and wind and are withered up as soon as they appear. Great care should be exercised to see that all trees and shrubs are firmly trodden, and in the case of larger shrubs and all trees staking is advisable to ensure immobility.

The selection of suitable shrubs is of the greatest importance. The choice is dependent in a large measure on the soil. In the case of heavy loam or clay, although there are many things perfectly at home in such soils, plants of the Heath family, including Azaleas, Rhododendrons, Kalmias and so on, do not succeed unless considerable additions of peat or leaf-mould and fibrous material are made. Again, on chalk or limestone the whole of this family should be discarded and only such plants as are truly at home on this formation should be used. The variety is limited, but good effects can be made even with limitations when the planting scheme embraces what is likely to succeed. On lighter soils, either loamy or of a peaty nature, Rhododendrons and their family

generally can, and should be, used extensively, and fortunately such soils will carry an infinite variety of trees and shrubs as well.

I think it best for intending planters who are not specialists to ask advice of any of the leading nurserymen, giving an idea of what effect is required, the space to be filled, and, most particularly, the class of soil that has to be dealt with. It is not always easy to advise by letter, and if anything like extensive planting is contemplated it is always worth while to get the advice on the spot. The best nurserymen can be said to be good planters, and it is always to their credit to have successful planting, and none, as far as I am aware, is adverse to receiving an advertisement by recommendation, which is almost certain to follow good work.

A good start is half the battle. If you are going to plant, make up your mind to do it well. If you cannot afford a lot, be satisfied with a few; but always endeavour to plant the best kinds, and the best in quality as well. One really healthy, well doing plant is worth many in bad condition, and once "bad condition" prevails in a garden it is difficult to stamp it out. F. GOMER WATERER.

THE HARDIER YUCCAS

SEVERAL of the Yuccas are hardy enough for all practical gardening purposes in most parts of this country, and considering how easy they are to grow, it is surprising that more use is not made

of them, for they are wonderfully handsome both in flower and out of flower. The best species for English gardens are *Y. filamentosa* and *Y. gloriosa* and the closely related *recurvifolia*.

Yucca gloriosa, the true type plant, is to my mind the handsomest. It forms in time a thick trunk several feet high. There used to be ancient specimens at Sutton Place taller than a tall man. The leaves are quite rigid and straight, and each is tipped with a terrible needle point. For this reason it is rather dangerous to plant it in such exposed isolated positions that folk might walk into it in the dark or where romping children might collide with it. In the variety *recurvifolia* the leaves take a slightly pendulous curve. To some minds this adds grace and beauty to the plant. Personally, I prefer the magnificent uncompromising rigidity of the type. *Y. gloriosa* may be used with splendid effect in association with rather formal architectural features, and it is also effective for growing with such sub-tropical plants as the hardy *Draecena*, Red Hot Pokers, Eucalyptus, Antholyza and so forth.

Yucca filamentosa, if less magnificent than *gloriosa*, is none the less a very fine plant. If anything it is hardier, and certainly it flowers very much more freely. An established clump of *Y. filamentosa* happily placed may be relied upon



A QUIANT GROUPING.

to flower pretty well every summer. The plant does not form such a pronounced trunk as *gloriosa*, but it makes up for this by producing numerous offsets and more quickly forming a spreading clump. All the *Yuccas* should be given a warm sunny position, a light rich soil, and if possible a raised position. In a rock garden which does not pretend to be alpine—how few do nowadays—they may be used with splendid effect. I have never seen them growing wild, nor do I know what positions they affect in the wild state, but from the way they thrive among rocks in captivity, and from the way *filamentosa*, especially, looks happy and well when placed in a setting of simply arranged rocks, I have a suspicion that such is the sort of place one would find them in at home.

The specimen in the illustration, mainly *Y. recurvifolia* with *filamentosa* behind, has been established on a little rocky knoll in very light

soil for some eight or ten years. It seldom fails to flower and this year the flower spike reached over 8ft. above ground level. In the foreground is a grove of aged specimens of that best of all dwarf conifers, *Juniperus hibernica compressa*, and in the centre of this impressive and very suggestive piece of grouping an early marble Buddha broods inscrutably over the scene. This little garden picture was not deliberately planned. Its features drifted together from time to time under the tactful whim of its owner. From a strictly critical point of view it is, I suppose, all wrong. Buddha should have had an Indian setting, and the *Yucca* comes from North America. The *Juniper*'s name suggests Irish origin, while the stream of rounded pebbles may quite well have come from Brighton beach. Yet whenever I visit this garden it is a pleasure to look at that queer individual little piece of grouping.

Stevenage.

CLARENCE ELLIOTT.

SOME THOUGHTS ON ROCK GARDEN PRACTICE

THE rock garden of to-day has slowly, if surely, evolved from the rockery which was so objectionable a feature of "villa" gardens fifty years ago. The main essential of the present-day rock garden is that it should suit its environment. For this reason it takes, in different gardens, widely different forms. There is, for example, the rock garden built against a cliff or steep bank. Broken up and diversified as such a garden may be, it will remain none the less a stone-dressed bank. Again, there is the garden formed in a natural or artificial fissure—perhaps the most natural and easily constructed of all—and the garden built in a disused quarry or gravel pit which is of the type first mentioned multiplied by four with some additional work in the enclosed space. Beyond and to some extent apart from all these is the rock garden in a slight depression or concavity, often artificially formed and consisting for the most part of turf, but with ledges of rock and suitable planting apparently scattered at haphazard but yet assembled with a master's hand to give the maximum of pictorial effect. Quite distinct, again, is the "moorland" type of garden so well exhibited by Mr. John Wood and others at the annual Chelsea Shows.

Now these few notes are not written to discuss the merits of the various styles, except that it is well to mention that the moorland effect, though beautiful in itself, is not calculated happily to accommodate a collection of choice alpinists. The few notes are written by one who has to some extent bought his experience to suggest a few considerations which should be taken into account when laying out a new rock garden. To avoid the drip of trees is a commonplace, but one that will bear repetition. The shade of trees, if not heavy and if, cast from the east, is beneficial rather than otherwise. It gives spring frosts a chance to dissipate before the sun's rays strike upon and damage delicate blossoms, and the trees themselves help to keep at bay those shrivelling winds which dry up the tissues of the hardiest plants and play sad havoc with alpinists coming from a climate where the air (as they meet it) is always charged with moisture.

A point, too, often overlooked in the search for a suitable location is the general lie of the garden. For practical as well as aesthetic reasons a rock garden should be much longer than wide, and the general direction of its length should be

north and south, so that by far the majority of aspects provided will be more or less east or west. South-east or south-west will suit encrusted and

Anemone nemorosa. Of these last the most beautiful variety is probably the jewel-like *Robinsoniana*, but the pure white wilding as generally seen is choice enough for any rock garden.

The writer has in mind an accidental planting which has given an immense amount of pleasure. A number of varieties of hardy Heaths were grouped more or less naturally in front of heavier planting. The Heaths were in groups of a kind, but not as boldly grouped as they would be were the writer carrying out the work now. Rough leaf-mould was collected for them from a neighbouring wood containing Bluebell bulbs and the twig-like rhizomes of Wood Anemones. Both Bluebells and Anemones established themselves, and very pretty they were among the Heaths, but as the background (mainly Rose species with some trees of *Acer Schwedleri*) threw heavier shade, the Heaths became more straggly and at length were rooted out. Now after a number of years the shade is quite heavy, but each spring brings the myriad silver chalices of the Anemone with their gilded interiors followed after a short interval by the glorious blue of our native *Scilla*. No picture in that garden is more valued—and the garden is of some size and contains many rare plants and, more important, many pictures—than either of the two mentioned.

Planting in the rock garden is still not boldly enough conceived. One still sees *Ranunculus*



A GEM FOR THE SHADY ROCK GARDEN, THE BLUSH PINK *SHORTIA UNIFLORA*.

tufted Saxifrages, alpine Phloxes, Aubrietias and the generality of alpine plants, whether bright but common or jewel-like and rare. Exposures practically due east or west will suit Mossy Saxifrages and a host of other plants to which excess of sunlight is detrimental. Northern, north-eastern and north-western aspects will accommodate the *Ranunculus* and *Haberleas* (planted sideways in almost perpendicular cliffs), hardy *Cyclamens*, Dog's Tooth Violets (both the European form, which is properly so called, and the American *Erythronium* now grouped with them), the *Hepaticas*, including the similar but larger *Anemone angulosa* and Wood Anemones,

in clumps of one and two. In their homeland (the Pyrenees) these beautiful plants form dense mats on the north side of wet rocks, usually under the shade of trees. If they are worth growing at all, they are surely worth growing to produce this effect. So with the *Erythroniums*. In their homelands these are carpeting plants. Effective as is a clump of, say, half a dozen, a much freer grouping is more than proportionately effective. As the bulbs of some species and varieties are rather scarce, it is fortunate that, once established, they increase themselves freely from self-sown seed, always, of course, provided that the lady of the house does not cut the blossoms.

A HALL OF ROSES

Being Notes on the National Rose Society's Great Autumn Show.

THE National Rose Society is faced with a serious problem. It was abundantly, and we may add uncomfortably, clear on September 21 that the hall at Vincent Square is quite inadequate for the needs of their Autumn Rose Show. This is one of the penalties of the Society's great and increasing success. The difficulty is to discover a hall which is at one and the same time suitable for displaying the enormous quantities of glorious Roses the members grow and show and of providing means for a great concourse to view them. Very large halls are to be had in and around the metropolis, but these are too large and they are otherwise not quite suitable. What is required is a large

every way, a great Show, a Show which no other country could equal. There were countless numbers of most beautiful Roses and these were displayed in almost every possible way, so that the visitor who did not go away satisfied, so far as the Roses were concerned must, indeed, be difficult to please. The only criticism we are inclined to offer with regard to the arrangement of the exhibits, is in connexion with the great trade displays. This is that there seems just a possibility of the exhibitors becoming stereotyped in their methods. It may, perhaps, be due to the exigencies of space, but we remember that the same thing obtained at the great Summer Show in Regent's Park. We have no doubt that many visitors would like to see some

the way orders come. We feel that the object would be attained, even in a greater degree, were it possible to display the collections more naturally.

However, the magnificent groups of cut Roses were worthy of unstinted admiration and the flower-loving public owe an immense debt of gratitude to the trade for making such gorgeous displays.

These great representative groups of cut Roses were decidedly the feature of the Show, and the first prize in the largest class fell to Mr. Elisha J. Hicks for a superb collection. His arches of such varieties as Joanna Bridge and Ophelia were very fascinating, as also were the generous stands of the fragrant Hoosier Beauty, Golden Ophelia, Climbing Lady Hillingdon and many other sorts. In their second prize group Messrs. Bees, Limited, had a great display of the showy Independence Day and the delightful single Isobel, a variety which might well be termed the Rose of the Show, for it was to be seen in great beauty a number of times. The brilliant colour of the Queen Alexandra Rose was freely commented upon in this collection. In their third prize exhibit Messrs. Chaplin Brothers had tall stands of splendid blooms of Golden Emblem, Lady Pirrie, Isobel and Red Letter Day. Messrs. Waterer, Sons and Crisp were fourth with a very creditable display. The beautiful white single Innocence was to be seen in superb form. An extra prize was awarded to Messrs. Alex. Dickson and Sons. In these groups there were also many very beautiful Roses, especially the vases of such recent novelties as Betty Uprichard, Lady Inchiquin and Mrs. Henry Morse.

In the smaller, but still large groups, the same high standard was maintained. Mr. George Prince was first with a charming display in which he disposed very artistically vases of such sorts as Padre, Isobel, Souvenir de Claudius Pernet and Golden Ophelia. Messrs. A. J. and J. Allen, who were second, included Isobel, Los Angeles and Lady Pirrie, but this collection was not so fully representative as the others. Messrs. S. McGredy and Sons were third and Mr. T. B. Edward was awarded a fourth prize.

The Exhibition Roses on boards were of decidedly better quality than might have been expected, in view of the cold, wet weather of late. But it was chiefly in the classes for Teas and Noisette Roses that any signs of weather stained petals were to be seen. In the large class for twenty-four distinct varieties the competition was very keen. Messrs. Alex. Dickson and Sons, carried off chief honours with an enviable collection which included in Annie Crawford, the silver medal bloom of the Open classes, Mrs. C. Lamplough, Edgar M. Burnett, Nelly Bligh, Florence Forrestier, Edward Bohane and Margaret M. Bulkeley, were also admirable. Messrs. Hugh Dickson were second and their best blooms were Earl Haig, Hugh Dickson, George Dickson, Caroline Testout and Alex. Emshe. Messrs. B. R. Cant and Sons were third.

The eighteen distinct varieties which won first prize for Mr. George Prince were also admirable in every way. The very best were Earl Haig, George Dickson and Augustus Hartmann. Mr. Geo. W. Burch was second. Mr. Prince was also the most successful exhibitor of twelve varieties of Tea and Noisette Roses, where he staged Lady Plymouth and Mme. C. Soupert.

The baskets of Roses are always a great feature of the Rose Shows, and the present occasion was no exception to the rule. The best three baskets



WONDERFULLY FRAGRANT, ROSE ARTHUR COOK.

but not too large hall with good lighting. The discovery of this is, of course, the National Rose Society's problem. Our present concern is to do justice to the magnificent show of autumn Roses in the limited space at disposal.

Several enthusiastic supporters of the N.R.S., and whose opinions carry great weight in the horticultural world, remarked to us that the Show under notice was quite the most of autumn Roses, and after dispassionately reviewing its predecessors, we are in full agreement with this. It was, in

attempt, at least, to depict the rose garden of our dreams—the rose garden which we all hope, but do not expect, to see. It is a garden of Roses which is at once elegant and beautiful and harmonious, a garden where the colours blend so perfectly that it would almost be sacrilege to cut even one single bloom, yet would tempt one irresistibly. We are fully aware that the nurseryman's object is to display his Roses so that they at once catch the visitor's eye, compel admiration and stimulate his desire for possession. This is

of exhibition varieties by Messrs. Hugh Dickson, Limited, were splendid masses of W. C. Wallace, Marjorie M. Bulkeley and Gorgeous. Messrs. S. McGredy and Son were a good second and their basket of Una Wallace was superb. Messrs. Chaplin Brothers have been consistently successful of late with baskets of Decorative Roses and their first prize five baskets were very beautiful. Messrs. Alex. Dickson and Sons were second and later in the day their baskets of Mrs. Wemyss Quinn, K. of K., Lady Inchiquin and Betty Uprichard were magnificent. Mr. G. Lilley's three baskets were Miss May Marriott, Mme. Abel Chatenay and Ophelia, while the three best baskets of Dwarf Polyanthas were of Orleans, Nurse Cavell and Coral Cluster shown by Mr. George Prince.

The twenty-four vases of Decorative Roses were highly creditable. Mr. G. Mattock was first, shewing Hadley, Isobel, Padre, Golden Emblem and other sorts. Messrs. F. Cant and Co., who were second, had splendid vases of Los Angeles, Red Cross and Golden Emblem. In the class for twelve vases, Messrs. Chaplin Brothers excelled with such sorts as Lady Pirrie, K. of K., Ophelia and Padre. In the second prize stand by Messrs. F. Spooner and Sons, there were glowing vases of Flame of Fire and K. of K.

NEW ROSES.

Florence L. Izzard.—This Hybrid Tea Rose had a certificate of merit at the autumn show last year, when it was called Florence M. Izzard. It now received the highest award. It is of medium size, and its rich yellow colouring makes it eminently suitable for massing. The buds and half-opened flowers are very pretty, but the fully expanded blooms are not so good. The deep green, shining foliage suggests Pernetiana parentage. This exceptionally promising Rose was illustrated in THE GARDEN, for October 2, 1921. Gold medal to Messrs. S. McGredy and Sons.

Arthur Cook.—A deliciously fragrant, fully double Hybrid Tea Rose of rich velvety crimson colouring that occasionally takes on a purple tone. It is of medium size, very shapely in the bud, and of rather flattish shape when fully open. The foliage is clean and good. Certificate of merit to Messrs. S. McGredy and Sons.

Mrs. G. Heath.—Although recommended for various purposes, this is essentially a garden Rose. It suggests Independence Day in form and habit and, like that variety, appears to be exceptionally free flowering. It is heavily shaded with apricot, and when fully open becomes a beautiful soft yellow shade. Certificate of merit to Messrs. S. McGredy and Sons.

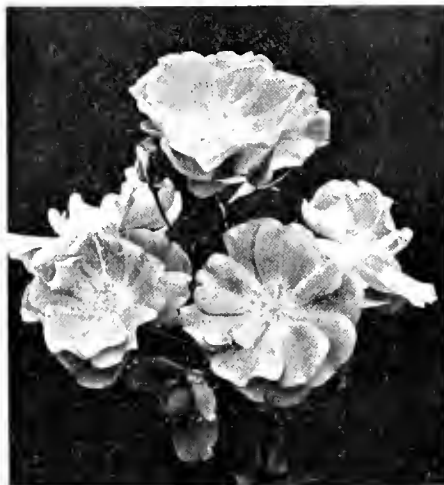
Nur Mahal.—A Hybrid Musk Rose of most fascinating fragrance. Its habit is described as a spreading bush, and it is evidently very free flowering, as there were plenty of semi-double flowers on the branching sprays. The blooms are about 3ins. across, of rosy crimson colour, with a small cluster of bright golden stamens surrounded by an irregular, narrow, white zone. Certificate of merit to the Rev. J. H. Pemberton.

Westfield Star.—A fully double Hybrid Tea Rose of medium size and described as a Polyantha seedling. It is recommended for bedding and for forcing. It is of milk white colour with pale yellow in the heart. The flowers are very shapely and apparently are freely produced. Certificate of merit to Messrs. Henry Morse and Sons.

Vesuvius.—In form this single Hybrid Tea Rose was decidedly the most uncommon novelty of the year, and no doubt suggested the name. It may be described as being vase or goblet shaped, just over 2ins. across, with the edges of the petals



ROSE INNOCENCE IN EXCELLENT FORM.



NEW HYBRID MUSK NUR MAHAL.



THE DEEP CRIMSON VESUVIUS.

recurred and of bright velvety crimson colour. It seems to be very free flowering. Certificate of merit to Messrs. S. McGredy and Sons.

Besides the above, which received awards, there were others of more than average merit. Messrs. Bees, Limited, again brought up their charming variety Ariel, and the dark variety Macbeth of pleasing fragrance; Firefly, a bright velvety crimson Hybrid Tea Rose of flattish shape; and Sybil, which is of Mme. Butterfly type. The Adjutant, a fragrant Rose which has often been seen during the past summer, was shewn. Messrs. B. R. Cant and Sons had a stand of Sovereign, a rich yellow variety which received a certificate of merit at the summer show, but it was not in sufficiently good condition to warrant the higher award. Climbing Mme. Edouard Herriot, raised by Ketten Frères of Luxembourg is not, as shewn, equal to the bush form. The flowers were poor in colour and shape. Messrs. S. McGredy and Sons had, in addition to those that received awards, three good varieties. Herald is a deliciously fragrant deep velvety claret-maroon Hybrid Tea Rose. The colour may be a trifle difficult, but if only for its fragrance Herald is well worth growing, and it is very shapely in the bud and when half-opened. Doris Trayler is a showy orange yellow shaded Hybrid Tea Rose which when fully expanded is pale golden. Albert E. Amos is a very fragrant H.T. variety of smoky crimson colour, but somewhat lacking in form.

THE AMATEURS' CLASSES.

While the exhibition blooms in this section were not quite equal to those in the Open classes, many reached a high standard of excellence. Mr. G. Speight, Market Harborough, who was first with twelve distinct varieties, shewed fine blooms of George Dickson, which was the silver medal bloom of the section, E. Benett and Mrs. C. Lamplough. Mr. F. H. Fieldgate, Colchester, was a very good second, and was first with nine distinct blooms, where he had beautiful examples of Colcestrie, Augustus Hartmann and Florence Forrestier. R. de V. Pryor, Hitchin, shewed the best six distinct varieties and Mr. J. T. Owen was the most successful exhibitor in the class for growers within ten miles of Charing Cross. Tea Roses were well shewn by Mr. W. G. Bambridge.

The Decorative Roses were very popular with exhibitors and the judges must have experienced considerable difficulty in making the awards, though Mr. G. A. Hammond had a very beautiful collection of Golden Emblem, Irish Fireflame, Mrs. Redford and similar varieties. Mr. A. Epiffeth, Finchley, had a beautiful basket of Ophelia.

In the Artistic Sections the competition was equally good. As a Rose for dinner-table decoration it was decidedly the day of Mme. Butterfly, as this variety was used both by Mrs. A. Bire and Mrs. Courtney Page, who won the two first prizes and both were exceedingly artistic arrangements. In the amateurs' class Mrs. Oakley Fisher had a brilliant table of Isobel and, although unplaced, Mrs. Barton just missed having a very charming table of Emma Wright and Mrs. Oakley Fisher Roses. The disposition and blending of these two Roses were admirable, but the growths of Rosa sericea pteracantha, though very beautiful in their rich colour, were too stiff and overpowering.

The many bowls of Roses were a pleasant feature and Mrs. May in the Open classes and Mrs. C. Geldens and Miss James are to be congratulated on the taste they displayed, while Mrs. Charlton had a beautiful vase of Mme. Butterfly.

DAHLIAS AND HARDY FLOWERS AT VINCENT SQUARE

WHILE many gardeners in the Home Counties have had their Dahlias blackened by recent frosts, it was evident from the display at Vincent Square on September 19th that this experience is not general throughout the country. There were gold medal collections by Mr. H. J. Jones and Messrs. Dobie and Co., and both exhibitors, in quite distinct styles, had very attractive displays. Although

quite a number of people admire the regularity of the exhibition Cactus varieties, it was abundantly clear from the visitors on the present occasion as well as at the recent show of the National Dahlia Society that the popular taste lies much more towards the Decorative types, which bear plenty of flowers on stout stems sufficiently large to carry the blooms well above the foliage and, what is even more important, of a length which permit their being arranged in vases. In this respect it



A NEW CAMPANULACEOUS PLANT, CODONOPSIS TIBETICA.



THE GLORIOUS SOFT BLUE TRUMPETS OF GENTIANA FARRERI.

was interesting to find that the whole of the flowers in Mr. Jones' large exhibit were free from any support. The many Collarlette varieties, which predominated in the Edinburgh exhibit, were also self-supporting.

The small Decorative and Paeony-flowered blooms in the collections by Mr. J. T. West and Messrs. Burrell and Co. were especially graceful and of beautiful colour tones, while the dainty Pompons and the beautifully regular Singles were particularly well represented in the exhibit by Messrs. J. Cheal and Sons, who also had many vases of the popular Star Dahlias.

Of the general floral exhibits a deal of interest was centred in the large collection of China Asters which Messrs. Sutton and Sons set up. This was quite an imposing display, and shewed what a number of different types of Asters we may choose from. The sinensis varieties are particularly elegant, while for depth of colour it was such double-flowered varieties as Scarlet Mammoth and Blood Red that took the eye.

The brilliant Kniphofias were displayed by several firms, though the finest were in a collection of border plants by Mr. G. W. Miller, who had splendid spikes of Lord Roberts, cambridgensis and nobilis, and also the queer greenish-yellow Star of Baden-Baden. The hybrid Lobelias which Messrs. B. Ladhams, Limited, have shewn on several recent occasions, again found many admirers. The tall stems of such sorts as carmineus, a delightful shade of pink; Princess, rosy pink; Shirley Beauty, rich mulberry crimson; and Salmonea, clear salmon pink, to name only a few, are very valuable, especially as they continue in flower for such a long time.

Michaelmas Daisies were also of considerable attraction. Mr. Ernest Ballard had a collection of his novelties which fascinated many visitors. Little Boy Blue is a very dwarf variety that becomes smothered with semi-double dark blue flowers. Aunty Ballard, which received an award of merit after trial at Wisley two years ago, is a beautiful soft shade of blue. Bee's Pink is the pinkest of the early pink coloured sorts. Very good pink colour was also provided by the flowers of the hybrid Cordebelgi, which, as its name suggests, was raised from Asters cordifolius and Novi-Belgii. Messrs. Isaac House and Son continue to shew large quantities of their graceful Scabiosa caucasica varieties. Mr. W. Wells, in addition to a new Gentian, had some good pans of Gentiana Farreri, and he also had many border flowers. Some immense Minulus in beautiful colours, and an admirable strain of Antirrhinums, were staged by the Chalk Hill Nursery Company.

Shrubs were not very numerous, but Messrs. L. K. Russell, Limited, had a good collection of Clematis flowering in quite small pots, and Messrs. J. Cheal and Sons shewed fruiting and flowering shrubs. Indigofera decora, Colvolvulus Cneorum and Daboecia polifolia were very pretty.

Greenhouse Carnations are always in season, and besides a good collection Messrs. Allwood Brothers had many plants of their useful Dianthus Allwoodii. Mr. C. Engelmann and Messrs. Stuart Low and Co. also shewed good blooms of Carnations. Messrs. Blackmore and Langdon arranged single blooms of their magnificent tuberous rooted Begonias.

In the Annexe Messrs. T. Rivers and Son arranged a collection of splendid pot Plums. The standard trees were all heavily laden with large fruits which bore a beautiful bloom. The chief varieties were Coe's Golden Drop, Coe's Violet, River's Late Orange and President. A goodly collection of Apples and Pears was staged by Messrs. D. Prior and Son of Rose fame. Among the Apples were Worcester Pearmain, Cox's Orange, Duchess's Favourite and Peasgood's Nonsuch; while the

ripe Pears included excellent dishes of Souvenir de Congrès, Williams's Bon Chrétien and Marguerite Marillat.

The only exhibit of vegetables was a really praiseworthy collection of nearly all seasonable kinds with saladings from the Church Army Garden. These vegetables were grown on a piece of ground adjoining Vauxhall Bridge Road, not far from the hall.

NEW AND RARE PLANTS.

Aster Queen of Colwall.

—This is one of the largest Michaelmas Daisies in cultivation. The semi-double flowers have plenty of narrow lavender blue florets set on long, straight, slender stems, so that, in addition to being very effective in the garden it is eminently adapted for house decoration. Award of merit to Mr. Ernest Ballard.

Begonia Boundii.

—This is a very uncommon Begonia, somewhat of *B. gracilis* (syn. *B. Martiana*) habit, but the glossy half-heart-shaped leaves are perfectly glabrous. The fleshy stems become 2ft. and more in height. They have smaller leaves freely scattered along them, and in the axils of these are set somewhat chalice-shaped, soft pink flowers about 1½ ins. across. It might almost be named the Balsam Begonia, as the flower stems suggest a Balsam. Mr. Bound told us the plants have white tubers, and while he had had it in his possession for ten years he could not state its origin. Shewn by Messrs. W. P. Bound and Son.

Calluna vulgaris fl. pl.

A compact, free-flowering little bush bearing double flowers of a darker shade of pink than usual was shewn by Messrs. T. R. Hayes, Limited.

Codonopsis tibetica.—The plant which was on show had borne several of the interesting campanula-like flowers, but only three were open. It is a slender climber, and the sky blue five-petalled flower is lined with a deeper tone. An accompanying note stated that it was raised from seed collected by Mr. G. Forrest, and that the plant had stood out of doors last winter. Award of merit to Mr. A. K. Bulley.

Gentiana Kurroo.—A handsome Himalayan species which was introduced in 1870. It forms a neat rosette of coriaceous oblong-linear leaves, and the long-tubed azure blue flowers are borne on semi-prostate stems. Award of merit to Mr. W. Wells.

Pyrus Malus transitoria.—One of Wilson's introductions. It appears to form a slender, graceful little tree. The irregularly serrated leaves are only a couple of inches or so long, and there are small, roundish, shining red fruits. Shewn by Mr. C. J. Lucas.

Rhus Cotinus atropurpurea.—The young leaves of this purple Venetian Sumach are of a bright

shade of colour which becomes deeper with age. It is quite a decorative variety. Shewn by Messrs. J. Cheal and Sons.

NEW DAHLIAS.

The Joint Dahlia Committee had a great many new varieties before them, and they



ASTER QUEEN OF COLWALL.
With a flower of the large *A. Amellus King George* to shew comparative size.

selected the following sorts for trial at Wisley next year.

Cameo.—A large yellow Collarette of yellow colour flushed with carmine in the middle of the petals.

Cavalier.—A large Decorative variety of dull crimson colour tipped with white.

Doris Tisdale.—This is an exhibition Cactus Dahlia with broad recurved petals. The yellow colour is heavily stippled with dull rose.

Primrose.—A primrose yellow Collarette with nearly white quills. The above were shewn by Messrs. J. Stredwick and Son.

Betty.—A delightful miniature Peony-flowered variety of lilac shades.

Leonie.—The mauve colour of this miniature Peony-flowered bloom is heavily stippled with carmine except at the tips.

Peach.—A silvery mauve miniature Peony-flowered variety lightly edged with carmine.

Princess.—A golden buff miniature Peony-flowered variety flushed with rose pink, especially on the outer half of the petals.

Raider.—A miniature Decorative bloom of soft terra-cotta shade with a suggestion of purple in the centre.

Tipsy.—Another miniature Decorative bloom of rich scarlet colour rather darker in the centre. This and the five previous varieties were shewn by Messrs. J. Burrell and Co.

Crawley Beauty.—A Parisian single of large size and velvety maroon colour edged with crimson.

Lady Hurst.—A bright rosy mauve Star Dahlia which has a yellow centre.

Mrs. Trist.—A compact Camellia-flowered variety of purplish magenta tone.

Peggy Lobjoit.—The colour of this Star Dahlia is a light rosy mauve, and there is a little yellow in the centre of the flowers.

Rowett Star.—A very uncommon variety of yellow colour shaded with light purple on the outer half. This and the four above were shewn by Messrs. J. Cheal and Sons.

Dainty.—A charming Star Dahlia with a yellow centre and flushed with mauve. This and the following were shewn by Mr. Charles Turner.

Sweet Dorothy.—A bright mauve Star Dahlia which has a paler zone.

Snowdrift.—A very good miniature Cactus Dahlia of milk white colour.

NEW CHRYSANTHEMUMS.

At their first meeting of the season the Floral Committee of the National Chrysanthemum Society re-elected Mr. D. B. Crane as chairman for the twentieth time and considered the merits of a great many novelties. The following varieties were the most promising.

Cissbury White.—This is a very useful incurved sport from the reflexed variety Framfield White. It produces plenty of compact blooms about 3½ ins. across. The pure white of the mature florets is relieved by the suggestion of yellow in the centre of the flower. First-class certificate to Mr. M. Aish.

Framfield Early Yellow.—Another sport from Framfield White, but in this case the habit more nearly approximates the type and as the colour is a pleasing shade of yellow it will be valued as an early Chrysanthemum. Shewn by Mr. J. Emberson.

Lichfield Early White.—This white seedling was raised from Sanctity and Miss G. K. Thorpe. It is a medium-sized Japanese bloom of graceful form. The centre of the bloom is greenish yellow. First-class certificate.

Mrs. A. W. Thorpe.—The colour of this graceful Japanese variety is a delightful warm shade of buff terra-cotta. Both naturally grown and dis-budded blooms were shewn and they are equally attractive. The flowers are of medium size and made up of narrow slightly drooping florets. First-class certificate.

Ray of Hope.—A small single-flowered variety suitable for growing as sprays. It is a seedling from Shrapnel and of warm orange yellow colour. There is a slight rosy zone to the flowers. This and the two varieties named above were shewn by Mr. M. Thorpe.

September Gem.—Although this rather more than medium-sized rich yellow single did not find favour with the committee, it has all the appearance of being a highly decorative variety for the garden and for decoration. Shewn by Messrs. Wells.

Waterwitch.—This dainty little pure white single was decidedly worthy of a better fate than being "passed." It appears to be exceptionally free-flowering and a flower that will last well in a cut state. Shewn by Mr. M. Thorpe.

FORTHCOMING EVENTS.

October 3.—Royal Horticultural Society's Great Autumn Show to be held at the Holland Park Rink (four days).

October 4.—United Horticultural Benefit and Provident Society's Annual Dinner to be held at the Imperial Hotel, Russell Square, London.

SHADY BORDERS

Their Planning and Planting.

THE shady border is perhaps the most difficult problem with which the suburban gardener has to deal, and really calls for a great deal more consideration than it usually gets from even the very best gardening books and newspapers. Queries are too often answered by the suggestion that it is

to 3ft., will be desirable, but generally speaking it will be found sufficient thoroughly to trench the ground to that depth, incorporating with it plenty of leaf-mould, road scrapings, and well decayed manure; anything, in fact, that will lighten it if heavy and help to give it consistency if over-light. In most cases a dressing of lime will be very



ADMIRABLE FOR THE SHADY BORDER, LILIUM MARTAGON ALBUM.

just the place for Ferns, and that the Japanese Anemone does not mind shade if it is not under the drip of trees. In large gardens it is, of course, often possible to lay out the ground so that the shady border is not much in evidence; but in the comparatively small suburban garden it is almost sure to be there and in full view from the windows of the house. The plot has probably a little piece of grass in the centre which gives a sufficiency of green, and most people would like to have something bright to look upon on either side and at the end, and incidentally to hide the palings or the bare wall which divides their plot from their neighbours. Numbers of plans have been drawn out by skilful garden artists shewing delightful variations of this simple scheme, yet it is still the most common, and few succeed in eliminating the shady border altogether.

In dealing with the problem the first point for consideration is whether the shade is open, or the site overhung by trees. In the former case there are many plants which should succeed perfectly well, but in the latter the number is greatly restricted. It will, therefore, perhaps be simpler to deal first with the border in open shade.

The first, and really after all the chief, consideration is to prepare the soil properly; many of the failures which occur must be attributed entirely to neglect of this matter. Soil which does not get much sun tends to get sour more quickly than that in a sunny situation, and extra attention to drainage will be necessary. In some cases a 6in. layer of stones and brickbats, placed at a depth of 2½ft.

beneficial, but this must be omitted if the space is to be planted with Rhododendrons, Azaleas or other lime-hating plants. Any good soil there is should be kept fairly well to the surface. If good turf loam is available it will be appreciated by everything. A sharp look-out should be kept for snails and slugs, which rejoice in damp and shaded spots, and a good soil fumigant could be employed with great advantage.

Should the border be very narrow, as it often is, it will generally be found a great improvement to widen it considerably; to a minimum of, say, 4ft. The amateur gardener often does not care to do this as he fears that it may merely increase the area of unsuccessful gardening, while taking away from the lawn which is, it may be, in a thriving condition. Yet the increase in width will greatly increase the probability of success since it will give room for the majority of the plants to be placed further away from the fence, thereby probably ensuring them a little sunshine in the summer, and also giving them a considerably larger space of good soil to draw upon for nourishment. In any case provide, as far as possible, against draughts.

Having thoroughly prepared the soil, the next point is to plant something to cover the wall or palings as quickly as may be if they are objected to as a background, which will almost certainly be the case. The choice will be quite limited, since these plants must be placed fairly close to the fence and consequently in a deeply shaded spot: in fact it will probably be best to plant it entirely with Yellow Jasmine (*Jasminum nudiflorum*), as that is

one of the very few things which will flower satisfactorily in such a site, and it has moreover the merit of flowering in winter, and so making the border cheerful at the dullest time of the year. It is a pretty dark shade of green which will form a good background to almost any flower, and, although deciduous, the stems are of the same shade, and when it is well and thickly grown they give almost the same satisfactory effect. The Morello Cherry would do quite well in this position, and its beautiful flowers in spring will be followed by a crop of fine red fruit. It should be allowed to grow somewhat loosely, as Cherries do not like severe pruning.

When the background has been arranged, the following can be recommended as likely to prove thoroughly satisfactory: Snowdrops, Winter Aconites, *Scillas bifolia* and *sibirica*, for early spring, followed in mid and late spring by Daffodils in endless varieties. Oriental Poppies or *Pæonies* will make a fine show in early summer, but perhaps the *Pæonies* are most to be recommended, as their fine foliage will help to hide the decaying leaves of the bulbs, which are so difficult to arrange for. For midsummer, *Campanula lactiflora*, a tall growing perennial with lovely pale blue flowers, would be very satisfactory. It will reach a height of 4ft. or 5ft., but not in the first year after planting.

Then for late summer and early autumn, Phloxes will prove the most brilliant choice, but Michaelmas Daisies and Golden Rod will also be quite successful and give a good touch of colour. Japanese Anemones, especially the pink form, could also be added. The many people who always ask for blue flowers would perhaps prefer English Irises in the early summer, and add Monksblood in autumn; but blue really seems to want, unless of a pale shade, more sunlight it is to be seen in full beauty.

The edging will depend much upon the taste of the gardener, and is too large a subject to deal with in the course of this article, beyond recommending *Violas* and *Mimulus* as likely to be the most successful low-growing flowering plants for the situation. *Polyanthuses* would also do well, but they flower only in the spring. An entirely different treatment for the border in open shade would be to plant it chiefly with Rhododendrons or Azaleas, interspersed with various Lilies which, if well chosen, would continue the flowering season right into autumn. The bulbs recommended in the previous scheme would furnish colour in the earlier spring, and Rhododendrons *dauricum* and *microlatum* could be added. They flower in late winter, and look lovely with Snowdrops and Scillas, but then Winter Aconites should be omitted as their bright yellow colouring does not shew to best advantage against the pale magenta Rhododendrons.

The same soil would be suitable, omitting the dressing of lime. The more leaf-mould and grit the better, and a little peat, if available, would be acceptable to all. A layer of sand should be put round each Lily bulb. The Lilies may not flower very well the first season, but when well established they are admired by everyone, and this beautiful genus of plants is too much neglected in the suburban garden.

Many people do not plant Rhododendrons and Azaleas because they consider them too slow growing, but they respond wonderfully to continuous watering in summer, and will then put on new growth at least twice as long as they do when left alone. They prefer rain water, but do not seem to mind ordinary hard water, though they do not like one definitely chalky. A great deal may be done to keep them moist and in continuous growth in summer by a good mulch, and it is well to spray them as often as possible. They respond gratefully to atmospheric moisture, even if only supplied by the hose. Of course this scheme of planting would be more expensive in the first place, but it

should solve the problem for a number of years with comparatively little further outlay of money or labour. Where very good immediate effects are desired, quite large bushes may be moved, and if good varieties are chosen, especially of the late-flowering brilliant red and pink Azaleas, the effect when they are in bloom will be gorgeous.

Yet a third solution, which might appeal strongly to the more botanically minded gardener, would be to devote the open shady border to the Primula family, but that solution would require an article to itself to do it justice.

THE SHADY BORDER OVERHUNG BY TREES.

Under the drip of trees it is difficult to get many things to thrive; still, with careful cultivation, a good number may be grown. Often it is the poverty of the soil and the dryness caused by the greedy tree roots that are the chief causes of failure. Trees, especially large ones with dense foliage, quickly drain the soil of almost all moisture, and, also, as may be readily imagined, of the plant food that is in the soil. People so often put plants under trees and then leave them alone to get on as best they can; whereas they are really much more in need of care and feeding and watering than most plants in the open border.

Evergreen trees, it is true, offer an almost insoluble problem, since the few things that might be made to flourish under them are scarcely suitable for suburban gardens.

The following plants and shrubs may be relied upon in a carefully cultivated shady border, even if overhung by deciduous trees: Rhododendrons, including the early-flowering variety nobleanum; *Rubus odoratus*, a purple flowered Raspberry with very fine foliage; the Mahonia, *Berberis Aquifolium*; *Sarcococca ruscifolia*; Rose of Sharon, *Hypericum calycinum*; the Rose Bay Willow Herb, *Epilobium angustifolium*; *Lysimachia punctata*, a fine yellow flowered perennial; Solomon's Seal; the common Bluebell, *Scilla nutans*; Sweet Woodruff, *Asperula odorata*; the Winter Aconite, *Eranthis hyemalis*; and Snowdrops.

Rhododendrons really prefer shade, and often suffer from a very virulent fly when grown in full sunlight. One is often told that Snowdrops do not flourish in suburban gardens, but in most cases there would be no difficulty with them if they were helped with a little leaf-mould and a constant watch were kept for slugs. Rhododendron nobleanum flowers in February, and is very bright and cheerful to look upon in that specially dull time of the year. A. E. W.

of the wild Mallow. The word amethyst has been so often misused both in botany and horticulture to denote something of a blue colour, that it is a pleasure to see the word rightly applied. Anyone who knows or possesses amethysts would see how useful the name of the gem is for describing a certain class of colour, as may be seen in the case of these lovely flowers. In this series Remembrance is the deepest and Amethyst the lightest, being only tinged with colour, as it is in the least strongly tinted of these gems. Another range is Queen Mary, palest rosy pink; Loveliness and Délice; Délice is the deepest of the three. These have no hint of amethyst in them, but are of a clear rosy pink, charming to use together.

The yellows are truly magnificent in nearly related shades of clear and brilliant colour. Yellow Colosse has something of the old-fashioned charm of the old quilled Dahlias, but has less formality; Brentwood Yellow is a splendid flower, evidently one of the best for border planting. Yellow King, a slight shade lighter than the others, is an immense and massive bloom, 7ins. across.

Three pretty flowers of the Mignon class, also in a clear, bright yellow, are named Louise, Pembroke and Daffodil; the last, a little the deepest in colour and of firm substance. These starry yellow Dahlias group beautifully with striped Maize and with Cannas that have light green foliage and pale yellow flowers; in association with white and yellow Snapdragons, the clear yellow *Calceolaria amplexicaulis* and the ever useful variegated *Mentha rotundifolia*, a charming picture of well related colouring may be made.

COLOUR EFFECTS IN THE FLOWER GARDEN

BY GERTRUDE JEKYLL, V.M.H.

IN some arrangements for colour effect in late summer there has been a difficulty in fitting the colour required to the place and season, yet I felt sure that, with the now extensive range of garden plants, the thing wanted must surely exist. What was desired was some Dahlias of the so-called Decorative class in colourings of cool pink and bright yellow. As I am unable to visit nurseries or shows, I wrote to

Messrs. Cheal of the Nurseries, Crawley, Sussex, and am thankful for their kindness in sending me a series of superb blooms. As other readers of THE GARDEN who are keen on good colour may like to know of them, I should wish to mention the following. A beautiful series of cool pink or mauve pink is Amethyst, Silver Queen and Remembrance. These may be described as of a true amethyst colour, near akin to typical mauve, the cool pink

The Decorative Possibilities of Autumn Foliage

IN spring the young tender leaves are admired and welcomed, although some would think their beauty a trifle cold. The observer knows, moreover, that soon there will be deeper tints, maturity and fruit following flowers in many instances. In autumn the tints are warm and soothing to the eye and one wishes that they would linger on throughout winter.

In the wild woodlands the harvest of autumn tints is abundant. There are many, however, who are not able to enjoy woodland scenery, but even in the town and suburban garden some autumn colour in leaf and stem may be enjoyed if, when the work of planting is being carried out, a few small bushes or a couple of trees be included which will furnish this desired colouring in due course. *Cornus alba* (Dogwood), *Rubus biflorus* (with almost pure white stems), *Pyrus Aria majestica*, *Ivy* (under trees), *Cotoneasters*, *Berberis Aquifolium*, are a few that succeed in town gardens.

For large gardens and pleasure grounds in the country, the kinds and varieties suitable are numerous. To obtain the most desirable effect where borders or grounds are fairly extensive, there must be a judicious addition of evergreen trees and shrubs, mixed with, or affording a background to, the deciduous ones, the foliage of which contains the various colours and shades which we so much admire. Care should be taken, however, to avoid spottiness in planting.

In a garden I visited some while ago, the yellow-stemmed Willows, growing luxuriantly in moist ground near a pond, were very effective; a dell, from which the sturdy branches of Oaks and Beeches rose 30ft. to 40ft. above ground level, formed a background; nearer at hand were the terraces and less formal parts of the pleasure grounds, well furnished with groups of suitable shrubs. In many cases the tinted foliage suggested, at first glance, masses of flowers. G. G.



DECORATIVE DAHLIAS IN THE HERBACEOUS BORDER.

CORRESPONDENCE

THE YELLOW MICHAELMAS DAISY.

I AM very glad that Amos Perry got an award of merit for the novelty *Aster hybridus luteus*, a while ago. I have a couple of plants in my collection of *Asters*, and so I can say from personal experience that it is a most attractive little plant with its beautifully formed small soft yellow flowers, very near that delightful shade which the older generation of Daffodil lovers called a John Nelson or a Captain Nelson yellow. Little, of course, is only a comparative term. The newcomer is tall if measured against one of the *Amellus* section. The adjective is intended to describe it alongside a typical *Novi Belgii* or a *Novæ-Angliæ*. On decently good ground here it measures 2ft. 6ins. It was in full flower on August 30. I feel in duty bound to mention the fact that someone who evidently did not think very much of this flower placed one day among the blooms some sprays of a common wayside weed known locally by a name not suitable for polite ears to hear (but which is faithfully recorded on page 323 of that most interesting work "A Dictionary of English Plant Names," by Britten and Holland), which to the "high lan'd" is *Senecio Jacobæa*. The unwritten name is still used locally, but not in drawing-rooms. My friend has, since these words were written, seen the *Aster* in full flower and has apologised for the suggestion made by the placing of the *Senecio*.—MAELOR.

COLLETTIA SPINOSA.

I AM puzzled by the exhibition at the R.H.S. Show on September 5 of flowering sprays of *Colletia spinosa*. Here this shrub always flowers in early summer. This year it began on May 31, and is now wholly without blossom.—HERBERT MAXWELL, *Monreith*.

THE POPLAR HAWK MOTH.

EARLY in July a pair of these beautiful moths was brought me, and in a day or two many green eggs dotted the breeding-cage. On July 22 a general hatching took place, and the tiny larvae at once "got busy" on Poplar leaves. Several were placed on a tree in the garden, but they soon disappeared, possibly eaten by birds. A solitary egg was found glued firmly to a leaf. Was this a coincidence or had another moth of this species "sensed" the presence of the other larvae? They are a beautiful shade of green; the skin is rough like shagreen, and down each side is a row of seven yellow stripes. If one uses a strong magnifying glass, one can see a row of red breathing holes along the sides. At the end of the body is a yellow horn, red at the base, and the legs are pink in colour. The amount these creatures eat is astonishing. Leaves placed in the cage soon become a mass of shrivelled stalks. The magnifying glass shows you how powerful their jaws are, and when one larva gives another a nip you can see by the sudden twitch that discomfort, if not pain, is felt. Earth has been placed at the bottom of their cage, and they are now full fed and beginning to turn into pupæ. When this transformation has taken place, they will remain quiescent until the spring. The colour of the pupa is brown, and has a queer look as if it had been dipped in mud and dried. The moth emerges from the pupa-case in early summer. Its forewings are grey with a white spot in the middle, the hind-wings having a bright red-brown patch at their base. It gets its name of hawk from its peculiar darting, hovering flight, a characteristic of all the Sphingidæ, or hawk moths. The sphinx

like attitude of the larvæ is seen at once when it is touched, as its head is suddenly raised, remaining immovable till danger is past. Verily there are other things of interest in a garden besides the flowers.—D. W. D.

WHAT DOES THE PICTURE REPRESENT?

I THINK the accompanying picture of a branch of Blackthorn may interest your readers, if only as shewing what the blossom ordinarily loses for want of foliage to accompany it. In this case the dearth of foliage is largely compensated for by a wealth of Lichen which, judging by the flowering, appears to have had little detrimental effect upon the tree. The Blackthorn is effective when in flower either in the hedgerow or in thin woodland and the double form (*Prunus spinosa* fl. pl.) makes



SINGULAR "FOLIAGE."

a pretty, small tree or large shrub. There is now a pink-flowered, purple-foliaged form called var. *purpurea*, which is said to be very effective, but I am not personally acquainted with it. When heavily laden with its blue-black sloes, the typical tree is very effective in autumn, but its cropping is rather spasmodic.—S.

THE TREE CYPRESSES.

THE writer of a paper on Conifers (page 462) refers to the true Cypresses as "emphatically trees for the Midlands and the South, as even the hardest will not withstand the rigours of our Northern winters." May I point out, as has been often done before, that in Great Britain winter temperature is far more a matter of longitude than of latitude. *Cupressus macrocarpa* thrives vigorously, both as a forest tree and a hedge plant, in the maritime districts of Scotland, especially on the west coast as far north as Ross-shire. To produce clean timber (valuable because of its

durability when exposed to weather) it must be planted in close canopy. As for the Italian Cypress, *C. sempervirens*, its hardiness in our climate seems to depend in some degree on the region whence seed is obtained. In 1878 I gathered some cones at Fiesoli, near Florence, where there is considerable winter cold. The offspring of these cones now stand here, averaging 30ft. high, in perfect health. In 1907 I gathered other cones at Ragusa in Dalmatia. Seedlings raised from these were all killed by frost in the nursery. *Cupressus formosana*, recently introduced from Formosa, said to be the loftiest species of Cypress, attaining a height of 200ft., has passed through three winters here unhurt without any protection.—HERBERT MAXWELL.

[It is doubtless a pity, as Sir Herbert Maxwell suggests, that when writing of shrubs, hardy only in favoured districts, the "south" is often used without the qualifying word *inland*, but happily most readers are aware of the special conditions applying on our western seabards.—ED.]

ANTIRRHINUM PRIMA DONNA.

HAVE you ever reflected on the swing of the pendulum from the usage of old-fashioned English names to the more "starchy" Latin and Greek ones? Thus Larkspurs have become Delphiniums and Snardragons Antirrhinums! Pages and pages might be written about it. We must nowadays be so precise and correct. The sea of continually improving communication is slowly and surely wearing away the little inlets of isolated hamlets and secluded villages with their old-fashioned speech, and the coastline is becoming monotonous in its uninteresting evenness. Never mind, there are compensations. We have no end of varieties. They are as the sand on the seashore. To these we can still give English names, but it is

not quite the same thing. They are seldom "pet" names as Apple-pie and Betty-go-to-bed-at-noon were. The rolling panorama of the world of flowers moves so quickly that it is "here to-day and gone to-morrow." The pretty pink Nelrose among Antirrhinums is one exception to this rule, although it probably owes much of its comparatively long vogue to its behaviour under glass. *Prima Donna*, which came to me from Dobbie's, is worthy of a place beside Nelrose. It has a colour which is difficult to describe. The best I can do is to call it a soft rosy fawn. It is very pleasing in the open and even more so under artificial light. I always grow the medium of Antirrhinums. In doing so I do not see exactly eye to eye with Jesse Suff (I am uncertain of my spelling), a philosopher of a bricklayer who in the course of a conversation when he was helping to build my rectory convincingly remarked, "I don't like any of them mediums; *give me*, I say, beer or champagne."—JOSEPH JACOB.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

French Beans growing in frames require rather more attention from now onwards. Should the weather be cold and changeable, it will be better to keep the lights always on, even though the plants are in bearing. The extra warmth gained will greatly help the plants, though on warm days a more free airing should be given to assist in getting rid of accumulated dampness. Should the plants be growing in frames without the aid of pipe-heat, some outside covering should be given on all cold nights and thus help to conserve the existing natural warmth.

Cauliflowers.—An abundance of these have been available and, indeed, are still turning in so readily that it may be found necessary to pull some of the plants up and have them removed to a cool dark cellar, suspended in which, curds downwards, they will keep many days in excellent condition. The lesser developed heads must also be thought of and upon the threat of a cold night have a few of their leaves broken over them as these will greatly assist in warding off possible danger from frost.

The Flower Garden.

Transplanting Shrubs.—The present time is quite one of the best and often convenient, too, for carrying out this operation. An important point which should not be overlooked, more especially in cold districts and where a cold soil has to be dealt with, is that the work should be carried out as early in the autumn as possible. At this season the soil is not only in a good workable condition, but it still has a great amount of warmth left in it, and the importance of these two factors in encouraging new root action can be readily understood.

Sweet Peas.—Where the raising of these plants is done during the autumn, now is a good time to carry out the work. Seed may either be sown in 4in. or 5in. pots or in well prepared ground outdoors. On cold heavy land the latter method is hardly worth attempting, but on a warm, well drained soil there is decidedly a gain of several weeks between the autumn and spring sowings. The batch grown in pots cannot be grown too sturdily, and only during a very severe spell or a prolonged wet period is it necessary to shut the frames up. Place three, four or five seeds in pots a corresponding number of inches in diameter.

Cuttings of many evergreen shrubs made now from the well ripened wood will root readily in cold frames or even outside on warm borders. Use plenty of grit in the compost and see that the cuttings are made thoroughly firm.

The Hardy Fruit Garden.

Preparations for Planting.—A few words upon this matter have already appeared in an earlier issue, but it will now be necessary to push on with the work as quickly as possible. Fencing or clearing of the ground should be attended to at once so that the site may be somewhat settled again before planting is done. While the above operation is in hand ascertain that the position of a new one is sufficiently drained. Make use of wood-ash and any old burnt refuse to improve the soil, and also a goodly amount of old plaster rubble where stone fruits are to be grown.

Grease Banding.—Early October may be taken as a convenient time to get this work done, the object being to trap the female moth as she travels up, which, generally speaking, commences about this time.

Fruits Under Glass.

Root-Pruning Peaches.—The next six weeks is the time for dealing with any necessary root pruning, making a start now in the early house if such work be intended. It is not very often that such work is necessary upon well established trees giving good annual returns, but rather upon more recently planted trees which are inclined to be rather gross of growth. Having taken a trench out about 2ft. deep and from 2ft. to 4ft. away from the stem, according to the size of the tree, gradually work with the aid of a fork until it can be ascertained whether any strong tap roots are penetrating the subsoil, and when such are found sever cleanly through with a sharp knife. Be careful when filling the soil in again to make it very firm and encourage the lay of the roots in an upward direction as much as possible. The carrying out of this operation affords an excellent chance of adding some old

mortar rubble to the border. Give a good watering to re-settle the soil, and syringe the trees for about a fortnight should the weather be warm and dry.

H. FURNER

(Gardener to the Duke of Northumberland),
Albany Park Gardens, Guildford

FOR NORTHERN GARDENS.

The Kitchen Garden.

Beetroot.—The main crop of Beet must be accorded more care when lifting than is necessary with the early Globe varieties. Avoid bruising or breaking the roots, especially the tap roots, otherwise they will be of little use for kitchen purposes, being insipid and pale in colour when cooked. Store the roots in a cool shed in fine soil or sand, arranging them in layers. Cover over with straw during the winter.

Mushrooms.—Continue to collect horse-droppings for successional beds. Have the manure placed in an open shed where it may be frequently turned to prevent it becoming sour. Beds which were spawned a month ago should be examined and if the surface should be dry, give a gentle watering with tepid water. Syringe the walls and floor of the house regularly. On beds where the Mushrooms are showing through, covering material should be removed as the Mushrooms will be found to develop more quickly and cleanly without it.

Lifting Potatoes.—All Potatoes should be lifted at the first favourable opportunity, as owing to excessive rains during August disease is noticeable in many gardens in our western district. Where airy sheds or cellars are available for storage, they will be found most convenient, especially for looking over the tubers during the winter months, but if placed in well made clamps they will also be found to keep in excellent condition. Tubers showing the slightest trace of disease or damage should be picked out during the storing period. When arranged in position in the clamp a good supply of straw should be used as a covering, placing on top of this sufficient soil to exclude hard frost.

Celery.—Add more soil to that already put round the earliest crop and give the first moulding to later lots. Remove all suckers and decayed outside leaves and tie the stalks sufficiently firmly to keep the soil from working in and destroying the hearts. Dig up and pulverise the soil thoroughly before earthing up.

The Hardy Fruit Garden.

Planting Fruit Trees.—Although it is yet rather early to plant, notes of requirements in the way of new trees for filling vacancies caused by trees dying out or which may arise through clearing away worn-out specimens or from a desire to replace inferior kinds by those of a superior quality may be taken, and the order placed in the hands of a reliable nurseryman. Do not be led away by advertisements regarding cheap trees. In many cases this is only the cause of much worry and regret, as they cannot always be depended upon as being true to name. It is certainly more economical to pay a fair price to firms who, in working and training their young stocks, lay the foundation of a tree that at an early date will give satisfaction to the purchaser. When grubbing up old trees, care should be taken that all the old roots are removed, as when roots of any size are left in the ground there is always a risk of fungi being bred which in due course may attack the roots of any young trees that may be planted on the same site.

The Flower Garden.

Violas.—Cuttings of these should now be got in for next season's display. Choose the firm stocky growths, breaking away from the centre of the plants and dibble into a cold frame containing a mixture of leaf-mould and sand. Keep the frame close for a few days and then allow a chink of air during open weather. Viola cuttings damp off readily if the frame is kept too moist or ventilation neglected.

Bedding Calceolarias.—The first week in October is the best time to propagate these. In taking cuttings do not use growths showing a flower bud, as these are the least satisfactory. Similar frame treatment to that recommended for *Violas* suits these *Calceolarias* admirably.

Dahlias should be looked over at this time and any additional tying necessary be done. Where growth is very dense it may be thinned out with advantage to the plant and the better development of later flowers.

JAMES MCGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.,
Coodham, Kilmarnock.)

GREENHOUSE AND CONSERVATORY.

Basket Plants add greatly to the appearance of a large conservatory and there is quite a number of beautiful plants useful for this purpose.

Asparagus Sprengeri makes an excellent basket plant and plants that were raised from seed during the spring are now ready for putting into baskets. These plants have a large root system so therefore require fairly large baskets.

Asparagus scandens deflexus is another very graceful and beautiful plant for baskets and can be raised from seed in the same way as *A. Sprengeri*.

Saxifraga sarmentosa is very pretty for small baskets, and if runners are secured and potted up at this time they will be ready for transferring to baskets early in the New Year.

Convolvulus mauritanicus, although hardy in many places in the south and west, is a very beautiful basket plant for the cool greenhouse. It is easily raised from seed, which if sown about this time will make good plants for flowering next summer. It grows well in any ordinary potting compost and requires perfectly cool treatment at all times, and in a sunny greenhouse produces its beautiful blue flowers in great profusion.

Lotus Bertholetii (syn. *L. peliorhyncus*) is also an excellent plant for baskets, with fine grey foliage and brilliant scarlet beak-shaped flowers. If propagated from cuttings at this time good plants may be obtained for next summer. It is not always an easy plant to root successfully, as the cuttings are very apt to damp off. It is best rooted in a cool airy greenhouse, placing the cuttings under a bell glass, which should be carefully wiped dry every morning.

Ivy-leaved Pelargoniums are, of course, popular and well known basket plants. If good specimens are required for next summer, cuttings should be rooted at this time. A few of the best varieties for the purpose are *Mme. Crousse*, *Scarlet Crousse*, *Jean d'Arc*, *Galilee*, *Souy*, *de Charles Turner* and *Elegante*. The last named is a very pretty variegated variety. Here I may say that some of the stronger growing varieties, if planted out, are excellent for covering the back wall of sunny greenhouses.

Fuchsias are also excellent for baskets, and for this purpose preference should be given to such varieties as naturally are of the slender or drooping habit. If plants are required for early summer flowering, cuttings should be inserted now and they will make good plants for transferring to baskets early in the New Year. For late summer and autumn flowering, cuttings may be put in during January and February.

Fuchsia procumbens is a small prostrate-growing species from New Zealand and makes a very pretty picture in a small basket. It is easily propagated at any time by means of cuttings, which root readily in a close case in a cool house.

Heeria elegans is another good plant for small baskets and is easily propagated at any time by means of cuttings. If inserted at this time they should make good flowering plants for next summer.

Chlorophytum comosum, with slender variegated leaves, is an elegant plant for small baskets and is easily increased at any time by means of the young plants which are produced at the end of the runners.

Campanula isophylla, blue and white and the variety *Mayin* are beautiful for baskets, as also is *Campanula fragilis*. The examples given will serve to show that there are quite a variety of plants that can be used for this purpose; and many others will suggest themselves to the plant lover.

Darwin Tulips are increasingly popular for pot culture and as success depends very largely on their being well rooted, they should be potted up as soon as possible. They are much larger-growing than the early-flowering varieties, therefore require larger pots to grow them successfully. I find it pays to put them into 7-in. or even 8-in. pots. In such pots they make fine specimens and are useful for standing on the floor. Some five or six bulbs should be placed in a pot. After potting they should be placed outside and covered with leaf soil or finely sifted ashes. If the latter are used they should have been well exposed to the weather,

as it is never safe to use fresh ashes for this purpose. The bulbs should remain under the covering until they are well rooted and growth begins to show on the top of the pot, when they should be removed to a north frame. This class of Tulip requires much more careful management than the early-flowering varieties. They will not stand the same hard forcing, but must be brought on more gradually and cooler than the early varieties. They are so beautiful that they are worth some extra trouble.

Royal Botanic Gardens, Kew.

J. COULTS.

Vegetables all the Year Round

October Operations.

NOTWITHSTANDING the fact that we are rapidly approaching the period of comparative slackness in the vegetable garden, October must be regarded as a month of considerable importance, as well in respect of the results of the past season's cropping as of the results that it is hoped will be achieved next year. There still remains some planting which can be done advantageously, harvesting work must be carried to finality, while the desirability of coming to a decision upon future planting may well have due consideration.

GROWING CROPS.

These will comprise plants in various stages, and all will demand thoughtful attention. It is of paramount importance that the rows of winter Spinach shall be adequately thinned, since it is only those plants which complete their development under the beneficial influences of unobstructed light and fresh air that yield satisfactory returns. Therefore follow up gradual thinning until the individual plants in the lines are now less than 15 ins. asunder, and when the time comes for gathering from them do not forget that it is infinitely more profitable to take the best leaves from many plants than it is to strip one or two, as is usually done in summer. Parsley, too, should be freely thinned out.

The hoe should be used incessantly during suitable weather between these crops and also all Winter Green vegetables, as well to keep down weeds as to facilitate the admission of rain and fresh, invigorating air. It is not infrequent to find that these last-named plants grow too luxuriantly in open weather; in such event choose a time when the surface is just on the dry side and tread hard down round the stems slightly to check the root action; it is not much trouble and goes to favour a hardier plant. The latest batch of spring Cabbages and Borecoles should go to their permanent positions forthwith to give them a chance to secure a foothold at least, even though they do not make material progress until the spring. Sometimes this late planting is valueless, but there comes the occasional season when it proves absolutely invaluable. It is, then, a useful form of insurance. There is a possibility that both Celery and Leeks will demand water; if they do, see that the soaking is a generous one. Earthing of the first named crop should proceed as necessary. It will be wise to break leaves over the heads of autumn Broccoli and Cauliflowers about the middle of the month as a measure of precaution.

HARVEST WORK.

It is the custom of many growers to leave all Potatoes in the ground to ripen, and the reason given is that otherwise they will not keep. This is, of course, utterly erroneous, and the practice should fall into disuse because it is late in the season that blight is apt to secure a hold on the tubers and develop when they go to store the partial

or entire ruination of most valuable food. The one disadvantage of lifting before ripeness is that the skins rub unless they are handled with care, but even so they will keep just as long, though their appearance will be somewhat marred. Storage of "ware" tubers must be in the dark with total exclusion of frost. If seed tubers are saved at home, they should be separated when lifting is in process, and their place of storage should have full light, abundance of fresh air and entire freedom from frost.

The principal root crops to go to store are Beetroots and Carrots, and the best method is in heaps of alternate layers of soil and roots, tails inwards. Beetroot, as the more tender plant of the two, will be dealt with first. Scrupulous care must be taken not to break or bruise the roots, and the tops should be screwed off a couple of inches above the crown. Carrots may have the tops cut off close to the crown. In neither instance should all the soil be rubbed away on the score of cleanliness; a little adhering assists the keeping properties appreciably. Parsnips lose quality so quickly after lifting that it is preferable to leave them in the bed and take out sufficient for a week's requirements at a time.

W. H. LODGE.

TRIAL OF DAHLIAS AT WISLEY

THE following awards have been made to Dahlias by the Council of the Royal Horticultural Society after trial at Wisley. The Dahlia trials at Wisley were judged by the Joint Dahlia Committee, consisting of members of the R.H.S. Floral Committee and the National Dahlia Society.

EXHIBITION SINGLES.—*Awards of Merit.*—Clematis and Bishop Crossley, sent by Messrs. Treseder. *Highly Commended.*—Mamie, sent by Messrs. Cheal; Amy Barrillet, from Mr. Bowles.

MIGNON.—*Awards of Merit.*—Albion and Janet, sent by Messrs. Cheal. *Highly Commended.*—Kathleen and Mincio, sent by Messrs. Cheal; Coltness Gem, from Messrs. Purdie.

COLLALETTE.—*Awards of Merit.*—Rona, Linnet, Tuskar and Scarlet Queen, from Messrs. Dobbie; Lolah, from Messrs. Burrell. *Highly Commended.*—Tiger, from Messrs. Dobbie.

ANEMONE-FLOWERED.—*Highly Commended.*—Mons. C. H. Dupont, from Messrs. Cheal.

PEONY-FLOWERED.—*Awards of Merit.*—Aphrodite, from Mr. Turner; Faithful, Enchantress, Scarlet King and Psyche, from Messrs. Burrell. *Highly Commended.*—Nelson's Narita, from Messrs. Bath; Vesuvius and The Rose, from Messrs. Velthuys; Extase, from Messrs. Hornsveld.

SMALL-FLOWERED PEONY.—*Highly Commended.*—Trixie and Norah Dell, from Messrs. Burrell.

DECORATIVE.—*Awards of Merit.*—Mrs. Courtney Page, from Messrs. Burrell; Salmonea, from Messrs. Velthuys; Hanny van Waveren, from Messrs. van Waveren.

SMALL-FLOWERED DECORATIVE.—*Awards of Merit.*—Aglaiia and Vida, from Messrs. Burrell. *Highly Commended.*—Marianne, from Messrs. Dobbie.

CAMELLIA-FLOWERED.—*Awards of Merit.*—Fedora and Mrs. F. J. Sage, from Messrs. Burrell. *Highly Commended.*—Artis, from Messrs. Topsvoort.

SNOW.—*Award of Merit.*—Doreen, from Messrs. Cheal.

STAR.—*Highly Commended.*—Seafield, from Messrs. Dobbie; Reigate Star, from Messrs. Cheal.

DWARF CACTUS.—*Highly Commended.*—Reg, from Messrs. Treseder.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

SINGLE-FLOWERED ROSES TO GROW NATURALLY (D. D. O., Dundee).—All the varieties named are of vigorous habit and quite likely to succeed under the conditions mentioned, provided they are given a good start and the soil is kept hoed until the bushes are established. Other single-flowered varieties that might be planted are Lady Curzon, Lady Penzance, Anne of Geirsdorf, Rosa Hugonis and R. inactrantha. K. of K. is also suitable, and as it seems that singles are not to be solely used, we suggest Gruss an Teplitz, Conrad F. Meyer, La Tosca, Moonlight, Danie, Fellenberg, Sarah Bernardt, Trier and Yvonne Rabier. It will be found beneficial to cut away some of the older shoots periodically.

TREES AND SHRUBS.

TREATMENT OF LAVENDER HEDGE (F. S. N., Wylam).—The woody condition of the base of a Lavender hedge is inevitable after a time, though it does not generally happen so soon as stated (four years). We fear it is caused by undue haste in making the hedge full sized. If this had been accomplished more slowly, there would have been sufficient side shoots all the way up to keep the hedge well furnished. In the circumstances the best procedure would be to cut the hedge plants rather hard back next spring and then regulate the growths. If the planting was done thinly, it should be possible to peg down some of the branches and so assist in forming a good base to the hedge. When a Lavender hedge becomes old the inevitable should be anticipated and sufficient plants raised to replace the old ones, forming a new hedge in, of course, fresh soil.

FRUIT UNDER GLASS.

GROWING CHERRIES UNDER GLASS (H. C. F., Carnforth).—Cherries, when grown under glass, do not require any artificial heat. When the trees are at rest they need quite cool treatment and if this can be given, the trees would thrive planted in the inside border. Our correspondent may, however, grow the tree, or trees, in large pots or tubs and, when the crop has matured under glass remove the trees to an outside position, of course, paying attention to watering, etc.; this is very important, and cleanliness while the foliage is growing. Royal Duke is a good variety for growing under glass.

FRUIT GARDEN.

VARIETIES OF APPLES AND PEARS (W. U. N., Reading).—The following varieties are excellent. Apples: James Grieve, fit for use from September to November; Cox's Orange Pippin, from November till end of January; and Upton Pine or Sturmer Pippin, till end of April or even later. Pears: Marie Louise, Doyenne du Comice and Easter Buerre. The cause of our correspondent's Apples falling may be due to the fact that the fruits contained a grub which attacks the fruits when they set and gradually work their way to the core, causing them to drop off prematurely; or some outward injury may have caused the trouble. If the fruits are free from attack, then the tree is evidently wrong at the roots—the latter being in a bad rooting-medium or otherwise damaged.

APPLES UNSATISFACTORY ("Torquay").—The specimen sent for examination was affected with bitter pit. This disease is not due to any fungus or insect pest, but is in some way connected with irregularities in the flow of sap. Good cultivation goes far to prevent the complaint, at any rate, in a normal season.

MISCELLANEOUS.

CUCUMBERS DYING ("Torquay").—The Cucumber stem is completely dead and infested with myriads of decay-producing bacteria, so that it is impossible to say what has killed it. Possibly the soil contains insufficient lime or is not well drained.

LICHEN ON A LAWN (A. D., Sussex).—Ammoniacal copper carbonate will be the safest remedy. Spray or lightly but thoroughly water the part of the lawn affected with this lichen with the ammoniacal copper carbonate, to kill the lichen, and then, if necessary, dress with fresh soil and re-sow with grass.

NAMES OF FRUIT.—E. B., Bournemouth.—Apples: 1, Annie Elizabeth; 2, Werder Golden Reinette; 3, Golden Spire; 4, Bramley's Seedling; 5 and 7, Blenheim Orange; 6, Charles Ross; 8, Wellington; 9, Antonowka; 10, Keswick Godlia; 11, Too immature to identify; 12, Probably Warner's King, specimen immature.—D. H. S.S.—Apples: 1, Lord Suffield; 2, Probably Pott's Seedling; 3, Worcester Pearmain; 4, Probably Autumn Rouge; 5, Pear William's Bon Chretien; 6, Too immature to identify; 7, Bramley's Seedling; 8, Pear Fertility; 9, Emperor Alexander; 10, Probably a local variety; 11, Lord Grosvenor; 12, Gage too squashed to identify. The above fruits were somewhat late due, no doubt, to heavy soil.—G. R., Elstead.—1, Pyrus Niedzwetzkyana; 2, Prince Englebert; 3, Poor specimen of Jefferson; 4, Probably Victoria, fruit badly squashed; 5, Probably Apple St. Everard, not a typical specimen; 6, Cox's Pomona; 7, Old "Curl Tail"; 8, Allington Pippin.

NAMES OF PLANTS.—E. F. C.—1, Olearia alba; 2, O. Fosteri. —"Bradwell."—Atriplex hortensis "Mountain Spinach." —J. Rogers.—H. lianthenum acymoides.—C. W., Hauts.—Senecio tanguticus.

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INDIVIDUALITY IN GARDENS

THE garden-loving public may roughly be divided into two classes, namely, the picture makers and the plant collectors. The writer claims no originality in finding this out, but, banal though it be, it is worth setting down, for each has something to learn of the other. The collector might often group his collection more, with great advantage pictorially and, incidentally, with considerable saving of labour and thought, inasmuch as nearly related plants are apt to require similar treatment as regards pruning and such like. The picture maker might, if only he would study the collector's garden thoroughly, find new plants for his schemes which would give his garden a certain originality which at present it too probably lacks. The eye wearies in the end of sights, however beautiful in themselves, which have become over-familiar, and however good the colour massing, however pleasing the curves, it is hard to become enthusiastic about a garden which is for practical purposes a counterpart of many of its neighbours!

Soils and situations vary immensely, and this fact alone should go far to provide suitable variety of treatment, but does it? Almost every garden, however unsuitable the soil, must have its Rhododendron bed, yet other equally beautiful American plants are much neglected. What wonderful effects can be produced — on suitable soils, of course — by associating the mollis and mollis *sinensis* Azaleas with Kalmias, Pieris and Lilies! The evergreens

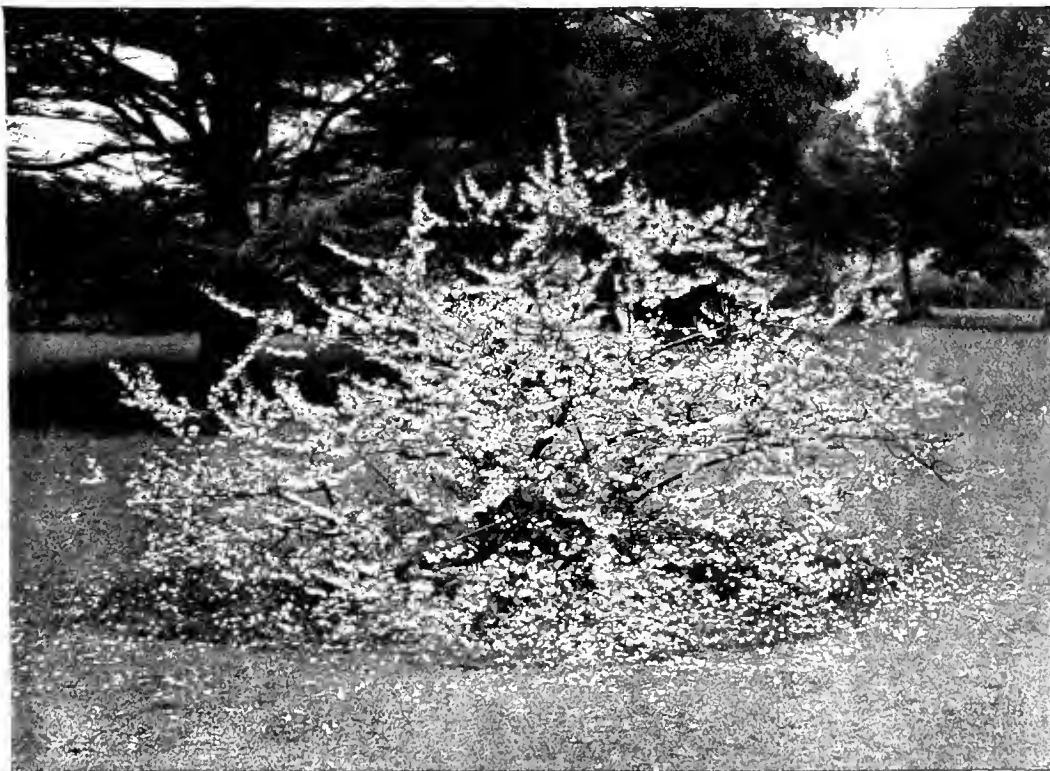
provide winter colour and a little weight of greenery for the glowing masses of Azaleas; the Kalmias provide welcome flower when the Azaleas are over, and the Pieris before the riot of colour begins. If additional summer colour is required beside the Lilies, there are various Ceanothuses to fall back upon, and groupings of Silver Birch in the background may, some of them, carry festoons of purple, rose or white Clematises.

Why is it, one wonders, that so many would-be gardeners always think of Rhododendrons in connexion with beds? The idea is a survival of the bedding tradition of a generation ago. Not only is the round or nondescript bed a very unhappy way of displaying these brilliant shrubs, it is also a very unfortunate one from a cultural standpoint, inasmuch as it is very difficult to keep plants alive in such beds—placed, as they usually are, in full sunlight—during hot, droughty

seasons. The Rhododendron is naturally a woodland plant, but where no existing growing shade is in existence such can readily be provided by suitable planting and contouring. A few Scots Pines and Silver Birches will provide a very helpful and steadily increasing screen.

Many of the named varieties of Azalea now on offer, especially the double sorts, are not worth garden room. For garden effect and real beauty a dozen Azalea mollis seedlings are worth a hundred of such. That is not, of course, to say that *no* named Azaleas are worth having. Such brilliant sorts as Anthony Koster and J. C. van Tol are, in fact, all but indispensable. What, by the way, has become of the old Honeysuckle Azalea, parent of all the Gheut hybrids, pleasing in its rich yellow colouring and thrice welcome for its delicious fragrance? To many this grand old kind comes as a new plant when they meet it. It will be found catalogued in John Waterer's list as Azalea pontica. Doubtless it may also be obtained elsewhere.

The fact that the Eucryphias are rare in gardens may be explained by the fact that hitherto they have been rather expensive (though surely one really good shrub is worth a number of mediocre ones?) or to their supposed, but quite imaginary, difficulty in cultivation. The common *E. punatifolia* is the best but *E. coriifolia* is desirable. Another family of shrubs scantily represented in the garden is the genus *Exochorda*. Their flowers, individually, are quite as beautiful as those of



THE BEAUTIFUL SNOWDROP TREE, HALEZIA CAROLINA.



BEST OF FLOWERING BRAMBLES, RUBUS DELICIOSUS.
The foliage is that of *Stephanandra Tanaka*.



THE PEARL BUSH, EXOCHORDA GRANDIFLORA.



BERBERIS THUNBERGII IN MARCH.

any of the Myrtles and are borne in elegant sprays, but through some curious perversity the Myrtle is given a wall and coaxed and protected in many gardens where *Exochorda* is not represented. White-washed Brambles, doubtfully handsome, abound, but the beautiful *Rubus deliciosus* is seldom seen.

Then how curious seems to be the general taste in shrubby *Spiraeas*! What quantities one sees of *Spiraea japonica* and its variety Anthony Waterer and the dingy white form usually catalogued as *S. callosa*. Next to these the most popular variety seems to be *S. Douglasii*, while crowds of somewhat similar but inferior species abound. Still on the descending scale of popularity we come to *S. Van Houttei*, which is really an excellent shrub, but the most beautiful of all, *Lindleyana*, *ariaefolia*, *Thunbergii* and *prunifolia* fl. pl., are those most seldom seen. Practically all herbaceous *Spiraeas* are valuable if rightly placed, but the glorious *S. palmata* should be planted wherever semi-shade and moisture can be found in conjunction. *S. Aruncus* is one of the most dignified and most generally useful of herbaceous plants. It will grow and flower in sun or shade.

Whole families of plants on someone's *ipse dixit* become branded as tender. The Daisy Trees (*Olearia*) form a case in point. It has even been stated that *Olearia stellulata* is only hardy on a wall in specially favoured districts. The fact is that in light, warm soils, given general natural shelter from the east and the hill top or, at any rate, some remoteness from the moisture-laden valley, such species as *O.O. stellulata*, the nearly related *Gunniana*, *macrodonata* and *nummularifolia* have passed safely through all recent winters in the South Midlands of England, and this without any protection whatever other than the natural shelter already mentioned. All those mentioned are, in point of fact, much hardier than such Rock Roses (*Cistus*) as *C.C. salvifolius*, *algarvensis*, *creticus* and *purpureus*. When one thinks how much more interesting these and other Daisy Trees are than the much planted *O. Haastii*, one can but wish that they may be more frequently planted in future. They are readily propagated from cuttings, and *O.O. stellulata* and *Gunniana* are quick growing, so that should a severe winter destroy them their replacement could readily be effected. The Snowdrop Tree, too, *Halesia carolina* is still scarce in gardens.

Near our seaboard the Hortensias, or Changeable Gardeners as they are also called (*Hydrangea hortensis*) flourish outdoors. The fine new hybrids are presumably as hardy as the older and less beautiful forms. Why not plant these in preference to the others? Inland gardens where the Hortensias do not stand usually contain the huge paniced *Hydrangea paniculata grandiflora*. This is an effective shrub, though hardly so graceful as the typical *H. paniculatum*, of which it is a sterile form, but it needs copious supplies of water if it is to succeed. The greenish white *Hydrangea arborescens grandiflora* is even freer to flower and withstands drought much better. True it is quite a distinct plant, but it is certainly worthy of more extended cultivation than it at present enjoys. Its chief drawback is that to see it at its best it needs a certain amount of staking or supporting, old peasticks being admirable for the purpose. The climbing *Hydrangea scandens* is also worthy of a place in gardens.

On any decent soil, but especially on those containing lime, the ornamental Plums and Cherries flourish. What a multitude of *Prunus cerasifera* *Pissardi* one sees (though its better forms, called *Moseri* fl. pl., *Blueiana* and *nigra*, are scarce enough) yet *P.P. microlepis* and *pendula*, and even the double form of the Blackthorn, *P. spinosa*, are comparatively rare in gardens.

MAPLES FOR THE GARDEN

IN the following notes no attempt will be made to describe all the species now grown in Britain, nor even all the desirable sorts. Rather will an attempt be made to select from the rather bewildering list of names a few of proved worth for various purposes. The common Maple of our hedgerows, with its very characteristic growth, beautiful bark and never-failing autumn colour, forms an admirable small tree. It is splendid for ornamental hedges where deciduous hedges are in demand, being equally as valuable as the Beech or Hornbeam for the purpose.

probably the best variegated deciduous tree which attains any size. The purple-leaved form (*A. P. purpureum*) has the foliage bright purple beneath. It is rather a dull-looking tree when seen from a distance, though pleasing on closer inspection. *A. P. brilliantissimum* is, as its name would imply, a striking tree, especially when the leaves first unfold. They are then of a bright pinkish shade.

The Sugar Maple, *A. saccharum* is rather of sentimental interest than valuable for garden or woodland in Britain. Its foliage turns yellow in autumn but the effect produced is inferior to that

handsome tree. The *Negundo* is gorgeous and the female with its huge bunches of keys the more handsome. The variety usually seen in gardens is called *variegatum*. It is handsomely variegated with white, but like all variegated trees may easily be overdone and has, indeed, been planted far too largely (and spottily) in many gardens. It is not a strong grower and has a persistent tendency to revert to the typical green form. This form is female and the keys are variegated. The golden-variegated form called *aureo-marginatum* is an altogether more robust tree than the white one, more effective and better worth planting. Variety *aureum* (*odessanum*) has leaves entirely golden. It is one of the best of yellow-foliaged trees and keeps its colour well.

Most garden lovers would consider the fancy Japanese Maples worthy of admiration in the garden. They assuredly are the most suitable representatives of the genus for the comparatively small garden. These are all varieties of *Acer japonicum* or *A. palmatum*, mostly of the latter, and represent careful selection over a long period by Japanese gardeners. The typical *Acer japonicum* is a beautiful and useful species which grows slowly but attains at last the dimensions of a small tree. It is interesting when in early spring the reddish flowers appear and again when the leaves unfold; it is a handsome tree when in full foliage; the reddish spreading keys are good to look upon and, in autumn, when the foliage takes on crimson tones, it is most beautiful of all. The smooth clean wood is attractive when the tree is bare. The most pleasing varieties of this beautiful species are the golden-leaved *aureum* and *filicifolium*, with handsome, much cut deep green foliage.

Acer palmatum (syn. *A. polymorphum*), is in the typical form less beautiful than *A. japonicum*, but many of its varieties are among the most beautiful foliage plants in existence. The palmate (five lobed) forms are, on the whole, inferior to the seven lobed (*septemlobum*) varieties. Some of the best of these latter are *elegans* with very beautiful green foliage, which turns scarlet in autumn; *elegans purpureum*, similar, but with purple foliage; *sanguineum*, leaves bright purplish red; *atropurpureum*, foliage deep purple; and *reticulatum*,

strangely mottled yellow, pale green and white on a darker background formed by the deep green leaf-veins. The typical *septemlobum* is an admirable green form which colours beautifully in autumn. Of the five-lobed forms perhaps the most useful is *A. palmatum aureum* with golden foliage; often confused with, but quite distinct from, *A. japonicum aureum*. *A. p. roseo-marginatum* has a distinct rosy edging to the leaf, but, as with many variegated leaved plants, the variegation is accompanied by considerable distortion of the leaf form and considerable loss of size. The dissectum forms are very beautiful with their much divided feathery foliage, but are hardly so strong growing as the seven or five-lobed forms. This very cut-leaved form is to be procured with green foliage, with foliage of a bronzy hue as well as with the wine red shading of *septemlobum sanguineum*. There are, in addition, variegated and rose-margined forms, all with the much-cut leaf.

Besides these (and other) forms of *A. japonicum* and *palmatum*, the Japanese have selected



A SPECIMEN ACER PALMATUM.

There are several varieties, some with mottled or variegated leaves, but the wild plant is the best.

The red Norway Maple, *Acer platanoides* Schwedlerii, forms an admirable tree, but requires room to display itself to advantage. The young foliage is bright red and the yellow flower attractive. The foliage matures a deep purplish green, but the keys are deep red and the foliage colours in autumn. There are other varieties of the Norway Maple which are worth growing, notably var. *globosum*, a small grower which forms a flattish head. All the green forms of *Acer platanoides* are valuable for red autumnal foliage colouring.

The common Sycamore (*A. Pseudoplatanus*) is a tree valuable for its extreme hardiness and easiness of culture. It is an admirable tree for near the sea coast. It may become deformed from the force of the wind, but will unflinchingly endure the salt with which the winds are laden. The Sycamore is more prone than most forest trees to exhibit variegation and the form *albo-variegatum* with bold milky-white blotches and stripes is

of the common Maple. In North America this is a very ornamental tree with brilliant autumn colouring, but it does not take kindly to our climate.

The Italian Maple, *A. Opalus*, is really beautiful when in flower in March and April. The flowers are quite a bright yellow, the tree grows well in Britain and has large and rather handsome foliage.

The Moose Wood or Snake-bark, *A. pennsylvanicum*, forms a tree of about the stature of the common Maple. It is chiefly remarkable for the white striping which distinguishes the wood when two years old and upwards. In the variety *erythrocladum*, the young wood turns bright crimson in autumn. This is one of the most attractive of Maples, being handsome of foliage and colouring well in autumn.

The Box Elder, *A. Negundo*, is now well known in gardens in its variegated forms, but the typical tree being rather gauche in its young stage is not nearly so often planted as it should be. It makes a

varieties of *A. pictum*, a much larger and quicker growing tree than the other two species. *A. pictum* itself is a sufficiently handsome tree, but the variegated forms are not recommendable. They have a considerable tendency to revert to the type and are moreover too quick in growth to associate with the palmatum and japonicum forms.

The Maples as a whole are not particular as to soil, but while by no means bog-lovers, they certainly flourish best where they have access to water. The Japanese varieties are very liable in our climate to be damaged by rough winds and by spring frosts. Shelter from rough winds and from the morning sun is therefore advisable. They succeed best in soil which will grow good

Rhododendrons. A little shade is not harmful to them, but it tends to detract from the foliage colouring. They have one great advantage in that, like many American plants, they transplant very readily, even when of some size and not recently transplanted. They may, therefore, be planted fairly closely and given more space when they grow together.

THE NEW HERBACEOUS BORDER: HOW TO MAKE IT

Really hardy border plants that flower freely, and grow well with good treatment, are increasing in favour every year. These notes and accompanying table are intended to be helpful to inexperienced cultivators who wish to form new borders either in new or old gardens.

THE list is not an exhaustive one as there is such wealth to select from, but the kinds and varieties named will answer the purpose as they are reliable, lovely in every way and, in addition to furnishing a border, will yield a harvest of blossom for cutting.

PREPARING THE GROUND.

Herbaceous plants will thrive in most soils if these are well prepared. It is quite as necessary to trench the ground for herbaceous plants as it is for fruit trees, shrubs and vegetables. Too often does one see herbaceous plants showing signs of distress about midsummer in a dry season just

when they should be in a flourishing condition. There are several causes of this, such as overcrowded roots, poor soils and lack of depth of cultivated soil. Even where every attention is paid to current details of culture, satisfactory growth will not result if the soil is very shallow in addition to being poor. Trench the poorest ground first to a depth of at least 2ft.; if leaf soil, garden refuse, which is suitably decayed, wood ashes or rotted manure be available, add such liberally to the poor soil, thoroughly mixing the materials with the soil. The roots of the plants will penetrate deeper, in consequence, and the clumps will survive a dry spell, bearing, of course, finer spikes, foliage and flowers.

Good loams will not need the addition of much manure at the time of digging; it can be applied, when necessary, as a surface mulch. Such loams should, however, be deeply trenched for many kinds of herbaceous plants root deeply, and in any case deep cultivation minimises the effects of drought. It is much better to prepare a small border thoroughly than a large one indifferently.

PLANTING AND ARRANGEMENT.

Planting may be done in open weather, any time from the end of October to the end of April as far as the majority of kinds are concerned. In the table the approximate height is stated of the kinds and varieties so that the veriest novice will be able to arrange the plants so that the tallest are in the background with dwarfer ones in the centre and front. But care must be taken to avoid a too formal arrangement. Odd plants or small groups growing a little taller than others near them, break up and enliven the appearance of the border.

Where Michaelmas Daisies are used the tall varieties should always be at the back, with the dwarfer-growing ones in the centre; these plants in themselves almost furnish a border late in the season. Ample room must be allowed for every clump to grow, without smothering others, unless, indeed, the "others" have gone out of flower.

GEORGE GARNER.

A SELECTION OF HARDY HERBACEOUS PLANTS.

Name.	Height. Feet.	Colour.	Flowering month or months.
Achillea Eupatorium	4 ..	Yellow	July, August, September.
A. The Pearl	3 ..	White	June, July, double.
Aconitum Napellus bicolor	3 ..	Blue and white	June, July.
A. Wilsoni	4 ..	Deep blue	August.
Adonis vernalis	1 ..	Yellow	April, May.
Agrostemma (Lychnis) coronaria Walkeri	1½ ..	Rose-crimson	June—September.
Alyssum saxatile citrinum	½ ..	Soft yellow	April, May, June.
Anchusa italica Dropmore var.	4 ..	Deep blue	July, August, September.
A. i. Opal	4 ..	Pale blue	July—September.
Anemone Pulsatilla	¾ ..	Purple	April, May.
Anthericum Liliago	2 ..	White	May, June, July.
Aquilegia chrysantha	2 ..	Golden yellow	June, July, August.
A. Helene	2 ..	Blue and white	June.
Arabis alba compacta	¼ ..	White	March, April, May.
Armeria Cephalotes rubra	1 ..	Red	July, August.
Aster acris	2 ..	Blue	August, September.
A. Amellus bessarabicus	2 ..	Blue	August, September.
A. Brightness	4 ..	Rosy lilac	September, October.
A. Edna Mercia	3 ..	Bright rose	September, October.
A. White Queen	4 ..	White	September, October.
A. Perry's Pink	3½ ..	Bright pink	September, October.
Bocconia cordata	5 ..	Cream	May, June.
Campanula carpatia	¾ ..	Purple, pale blue or white	June, July, August.
C. van Houttei	2 ..	Blue	June, July, August.
Centaurea montana	1½ ..	Blue	July, August.
C. m. alba	1½ ..	White	July, August.
Chrysanthemum latifolium grandiflorum	4 ..	White	July, August.
C. Mrs. C. Lothian Bell	3 ..	White	June, July.
Coreopsis grandiflora	3 ..	Yellow	July, August, September.
Delphinium in variety	3—6 ..	Blue, purple or mauve	June, July, August.
Dictamnus Fraxinella	2 ..	Rose or white	June, July.
Doronicum plantagineum excelsum	3 ..	Yellow	May, June.
Erigeron speciosus superbus	3 ..	Violet-purple	July, August, September.
Gaillardia	2 ..	Various shades of red	June to October.
		and (or) yellow.	
Galega officinalis	4 ..	Lilac or white	July, August, September.
Gypsophila paniculata	3 ..	White	June, July, August.
Helenium superbum	5 ..	Yellow	August, September, October.
H. punilum magnificum	3 ..	Yellow	July, August, September.
Helianthus rigidus Miss Mellish	6 ..	Yellow	August, September, October.
H. r. semi-plenus	4 ..	Yellow	July, August.
Heuchera sanguinea	1½ ..	Scarlet	June, July, August.
Iris sibirica	3 ..	Violet-purple	May, June.
I. aurea	3 ..	Golden yellow	May, June.
I. cristata	½ ..	Blue	May, June.
Linum narbonense	2 ..	Blue	May, June, July.
Lychnis chalcidonica	3 ..	Scarlet	June, July, August.
Malva moschata alba	2 ..	White	June, July.
Monarda didyma Cambridge Scarlet	3 ..	Scarlet	July, August, September.
Orobus vernus	1 ..	Red	April, May.
Phlox Coquelicot	3 ..	Orange-scarlet	July, August, September.
P. Embracement	3½ ..	Salmon-orange	July, August, September.
P. Etna	2 ..	Orange-scarlet	July, August, September.
P. Henri Murger	2½ ..	White	July, August, September.
P. Le Mahdi	2½ ..	Violet-blue	July, August, September.
P. Svalphide	2 ..	White	July, August, September.
P. Tunisie	2½ ..	Pale violet	July, August, September.
Rudbeckia Newmanii	1½ ..	Yellow	July, August, September.
Scabiosa caucasica	3 ..	Blue (pale)	June, July, August.
Solidago canadense	4 ..	Yellow	July, August, September.
Spiraea Aruncus	4 ..	White	July, August.
S. palmata	3 ..	Rosy crimson	July, August.
Statice latifolia	2 ..	Blue-purple	July, August.
Thalictrum flavum	4 ..	Yellow	July, August.
Tritoma corallina	3 ..	Scarlet	August, September.
Trollius europaeus	1 ..	Yellow	May, June.
Veronica longifolia sub-ossalis	2 ..	Blue	July, August.

THE SNAKERROOTS

AMONG the most interesting and attractive families of hardy herbaceous perennials are the Snakeroots (*Liatris*), natives of North America and quite unlike any other genus in that they commence to open their flowers from the top of the spike and continue downwards. From a cluster of grass-like foliage appear stout, straight leafy stems attaining a height of from 3ft. to 4ft., of which fully 1ft. to 2ft. is encircled with crimson-purple, star-like flowers. The flowering season is extended over a period from July to middle of September. The *Liatris* are perhaps most effective when planted between such plants as Peonies or Phloxes, their spikes towering well above. All the species thrive in ordinary garden soil in full sun or partial shade, but respond handsomely to good cultivation. They are also good bee flowers.

THE GARDEN DAHLIA

THE present-day Dahlia, apart from its obvious grouping into classes, such as Pæony, Decorative, Cactus or Show, may well be divided into three great groups, according as to whether the varieties are suitable for (1) the exhibition board, (2) general cut flower and decoration, (3) garden decoration, or (4) for cut flower and garden decoration. Some sections can be placed bodily in one or other of these categories. The Show Dahlia (this class now includes the old "Fancies") are of little decorative value anywhere. The Cactus has real decorative value when cut, but is principally an exhibition bloom. On the other hand, the quaint little Pompons are equally useful for the garden, for cutting or for exhibition. Many of the exhibition singles and some of the Star varieties, while admirable for cut flower, are too shy to be really effective in the garden. This was made especially evident on a recent visit to Messrs. J. Cheal and Sons' trial ground at Crawley. Messrs. Cheal, very wisely as we think, attach great importance to the Star class, which for decorative purposes is rapidly ousting the exhibition single as being more graceful when cut and more effective on the plant. The two first varieties of this class to be introduced, the rose pink Crawley Star and White Star, are still invaluable. Messrs. Cheal have been trying a curled petalled white seedling of more starry appearance than White Star, but it is less floriferous and though quite distinct, the flower is scarcely more beautiful than the older plant. Yellow Star is a good garden Dahlia, so is the tall upright-growing Bronze Star. A particularly fine Dahlia for cut flower is Peggy Lobjoit, and this is also quite a good garden plant, though less free flowering than Pink Star, which is hardly so good for cut flower. Purchasers must take their choice. Crimson Star is useful, but not up to the quality reached in other colours, nor as seen growing is it quite crimson. Reigate Star in shades of apricot and pink is good, but Surrey Star does not shine as a garden plant. Mauve Star, Coral Star and the newer Cuckfield Star, which is rose pink at the tips of the petals, shading off to soft yellow at the centre of the flower are all admirable; so in a different way is Primrose Star, which has several rows of petals and looks to have Cactus "blood" in it.

Of almost equal value with the Star class are the dwarf bedding "Mignon" Dahlias, but these have not hitherto been so popular, probably because the single flowers have no special beauty

of form when seen on the exhibition stand. Almost every colour wanted is now to be found in this class except pink, and it would really seem as if the pink coloration carried with it a factor for tallness, but in one way or another this difficulty will probably be overcome sooner or later. All the varieties on view at Crawley are free flowering and admirable in their several colours, but the soft yellows represented by Louise and Pembroke as delightful foils for taller plants of rich red colouring made the greatest appeal. In Mr. Joseph Cheal's private garden a circular bed filled with the camellia-flowered Crimson Flag and edged with Mignon Dahlia Pembroke was



THE CHARMING DAHLIA CUCKFIELD STAR.

wonderfully effective. Janet, bright orange, very free and distinct, and the rich yellow Daffodil were particularly taking also, but the white varieties Niveus and Albion and the bright crimsons, such as Etna, Regent and Mincio, were equally effective. Mincio, indeed, was practically as bright as that excellent variety Coltness Gem, represented in the trials only by cut-back plants.

The exhibition singles are rather set and stiff for cut flower, and for the most part less showy in the garden than the Star varieties, but there are exceptions in this last regard, and we particularly noted Butterfly, pure white with, of course, the characteristic yellow zone and the vivid crimson scarlet Leon as excellent garden plants, as well as being admirable for exhibition purposes.

Collarlet Dahlias are not very noteworthy as plants for garden decoration and, since the truth must be told, the newer sorts seem less effective

for this purpose than those first introduced. At any rate the old Carl Beckstadt, bright crimson with a yellow collar, seemed about the most effective of those under trial. The collar of this variety is rather poor and "stubby" and the petals do not lie flat; none the less, it is an excellent garden plant. Of the newer sorts Melody, a study in bronzy orange and yellow, made the best effect, always excepting the brilliant semi-double Novelty, which is a brilliant garden plant with an abundance of not too shapely flowers in bright crimson and gold.

The Pompon Dahlias are quite admirable for garden decoration, since they blossom freely and hold up their flowers well above the foliage. That they are valuable for cut flower goes almost without saying. If they have not quite the grace of, say, the Star varieties, they largely make up for the shortage by the fact that however long they remain in water they shed no pollen. It is true that if gathered before quite mature the Star varieties may be used quite safely even on the dinner-table for two days; none the less, their propensity to shed pollen is undoubtedly a drawback. One cannot say that any special Pompon variety drew attention in the trial. They were all laden with blossom, so that making a selection resolves itself largely into a choice of colours. Firefly and Freedom, both crimsons, are effective in the garden, so is the primrose-coloured Niobe and the pure white The Bride. Nerissa in mauve pink and Bacchus with orange apricot flowers we do not remember to have seen at Crawley, but they are both excellent, if old, varieties.

The Pæony-flowered class is still popular despite its affectation of modesty in the border! The Pæony-flowered varieties almost invariably carry their flowers well above the foliage, but with equal unanimity they almost all hang their heads to greater or less extent. For that reason many people prefer the tall varieties, as then, especially if they be planted on rather high ground, one looks upward to the flower. Probably a race of stiff-stemmed Pæony-flowered sorts is on the way. At any rate the new Lady Greer recently selected for trial at Wisley carries its flowers firmly on stout stems. The miniature Pæony-flowered sorts shade off by insensible degrees into the Star class. These are equally valuable in the garden and almost as good for cut flower. Especially good at Crawley were Lady Beatty, salmon pink, flushed rose, and Léonie Cobb, rosy lilac.

A large batch of the best Cactus varieties served only to shew how unsuitable these are for garden decoration. The miniature Cactus forms, however, are excellent garden plants, but varieties at present are not numerous.

The large Decorative varieties are all suitable for garden decoration, since by their suitability in this regard they stand or fall, but they shew great diversity of habit and appearance. The popular Brentwood Yellow has evidently much Cactus blood, whereas others are practically quite double "Pæonies," and others, again, like the flaming red Souv. de Gustave Douzon, are a class apart. This last type is evidently being bred for by the Dutch florists, since a number of the varieties with these huge solid flowers were displayed by them at the Dahlia Show. They certainly are showy in the garden. At Crawley these leviathans came in for their share of admiration, but the smaller camellia-flowered type seemed the more attractive. Crimson Flag has already been referred to. It might be taken as typical of a good garden Dahlia. Cheal's White represents, near enough, a white counterpart. Yellow and pink have yet to be represented in anything of the same type. May they soon be evolved

THE ASIATIC SPECIES OF MECONOPSIS

WELL do these exquisite flowers, that the botanist recognises as *Meconopsis*, merit the more English name of *Satin Poppy*, for that is exactly what they look like.

Great poppy-formed flowers, with petals of such delicate texture that they appear as though made of slightly crumpled satin. Whether seen in the early morning when the enclosing cases have but recently fallen away from the buds and the petals are but just commencing to unwrap and reveal a peep of the glorious golden stamens that cluster at the centre of the flower or at noontide, when the widely expanded blooms are at the zenith of their glorious perfection, the "aristocratic" varieties of these superb flowers are among the finest of Nature's gifts to the garden lover. I use the word "aristocratic" varieties to describe the super forms that come to us from the Himalayas, etc., for we have, among our native flora, representatives of the family in the Welsh Poppy—*Meconopsis cambrica*—which beautiful though it is when one comes upon it amid its natural surroundings, is apt to become rather troublesome when transferred to the garden, owing to its free seeding habits. Would that the alien types were addicted to the same vice, for never, never, could one weary of the marvellous beauty of such gems as *aculeata*, *nepalensis*, *Wallichii*, etc., but alas! these have to be coaxed and wooed to do their best, although the difficulties in the way are not insurmountable and splendid results may be obtained where soil and position are to their liking. Here, indeed, lies the crux of the matter. One must experiment and find the particular spot in one's own garden where they will thrive and grow, perhaps only a few feet from a previous failure. Sometimes it is full sun, at others in partial shade; my own observation favouring a spot sufficiently in the open for it to be impossible for any overhanging boughs to drip when rainy times come, but within the vital shadow where the sunlight comes through tall tree boughs.

Abundance of water is essential, yet must the soil never become wet or stagnant; a cool moist, yet

rich loam providing the best rooting medium. Many of the choicest types are biennials and must be sown annually and, when dealing with these, the best method is to raise in single pots, growing the plants on as strongly as possible all through summer and autumn. Do not allow them to become stunted; if larger pots are required, by all means provide them and see that the plants never suffer from drought for a single hour. These biennial forms are best wintered in a cold frame, always with an abundant circulation of air except when the conditions are unduly wet or extreme frost prevails.

Planting in permanent positions should be done either in late March or early April, taking care that the soil (while of the character indicated), is also deep and sufficiently moist. Many plants will flower the succeeding July, although others will not shew any sign of buds until another twelve months have elapsed. It is these that—ultimately—will make the most vigorous specimens and, in the ever increasing size of the rosettes of leaves, one can watch the promise of effective blossom accumulating.

When winter comes again, what then? Well, some slight protection is advisable and there is no better way of providing this than by fixing a pane of glass over the top, a few inches above the crown so that rain is shot off and the foliage kept dry while air can circulate freely over the plant. Species are fairly numerous and, among the



VERY DISTINCT IN FOLIAGE, *MECONOPSIS LATIFOLIA*.

choicest of these, mention should be made of *M. aculeata*, a small grower (2ft. high) from the Himalayas, with bright green leaves armed with stiff hair-like prickles. From the centre of the rosette of leaves, rises a stem, terminating in a loose panicle of purple blue flowers of large size. *M. integrifolia* is a grand thing from China which forms large rosettes of beautiful woolly green leaves, from the centre of which springs a tall flower stem bearing splendid primrose yellow flowers 4ins. in diameter, with stamens the same colour as the petals. It is interesting to note that there are two forms of this plant, that first introduced producing a single stem with the flowers on short pedicels branching from it, while that which followed produces several stems from the root, each one of which bears but a single bloom. Both are readily reproduced from seed.

M. nepalensis, native of Nepal, is a rare plant and very difficult to obtain, though strikingly distinct. The flower stems attain a height of 4ft. to 5ft., with wonderful large brick-red flowers, 2ins. to 3ins. in diameter. The flowering stem is much branched and the flowers nod on the stalk at the slightest breath of wind. *M. paniculata* makes very large rosettes of foliage covered with silky tawny hair, a vigorous stem 3ft. to 5ft. in stature rising from the centre, which bears a profusion of drooping yellow flowers. *M. racemosa* is quite dwarf compared with many varieties and does not exceed 1ft. The flowers are very like those of *aculeata*, but a delightful shade of pale blue. *M. simplicifolia* forms tufts of lance-shaped leaves, 3ins. to 5ins. in length and covered with a short, dense brownish pubescence. The flower stalks rise to 1ft. and bear, at the top, a single violet-purple flower, 2ins. to 3ins. across. *M. Wallichii* is among the choicest and finest species, capable, under the



MECONOPSIS WALLICHII IN SEMI-WOODLAND.

best conditions of reaching a height of 5ft. to 7ft. A native, once again, of the Himalayas, the foliage is exceedingly beautiful, much divided and covered with silky hairs and reaching a length of 1ft. to 18ins. These leaves are extremely brittle and, though quite capable of standing the winter, are

badly damaged by snow so that our ally, the glass pane, should certainly be requisitioned. The flower spike assumes the form of a pyramid and branches freely, the first flowers to open being those at the end of each branch, continuing until those nearest to the central stem expand. CROYDONIA.

A TRIAL OF NEW ROSES

BRITISH INTRODUCTIONS OF 1920.

(continued from page 487)

Miss M. J. Spencer (H.T., Hugh Dickson).—Strong growth. Golden yellow blooms, not unlike Golden Ophelia in the bud, and the blooms are lighter coloured on the outside petals, but it is a stronger grower than Golden Ophelia and a different type. Should make a good garden Rose, and is sweetly scented.

Mrs. Arthur Johnson (H.T., S. McGredy and Son).—To judge by the foliage and growth, it looks like a Pernetiana. Moderate growth, with large blooms rather flat, and deep orange colour.

Mrs. Chas. Lamplough (H.T., S. McGredy and Son).—An exhibition Rose of good, strong

NOTES on the AUTUMN ROSE SHOW

The Giving of Gold Medals and Awards of Merit.

THE bestowal of a gold medal on Florence L. Izzard gives me an opportunity to correct a statement in the Rose Annual for 1922 in my account of the Autumn Rose Show of 1921. I am made to say "Anyone who was on this occasion a little behind the scenes as I was could not fail to be aware that rosarians of equal experience with the judges would have made the same awards." I intended to say, as the immediate context shews, "would not have made the same awards." Exactly the same occurred this year. The selected judges made their awards, but I found rosarians of equal experience who would have given them very differently. "Who shall decide when doctors disagree?" I really cannot tell; but when this happens it does seem to give a *locus standi* to men and women who are no experts and to whom the raised centre is no fetish. Hence I venture to say that I would have given a "gold" to Mrs. Edward Molony. I liked the general form of the flowers, their pretty rose colouring, and their pleasing scent. I cannot help it, I do like rose-coloured Roses. Florence L. Izzard, the rival of Mable Morse in the last autumn show, gained the gold medal this time. It has two very good points. It has a strong Tea scent and exceedingly nice shaped buds. But I thought its yellow colouring cold and somewhat unattractive. The award, which in my eyes "took the biscuit" for non-understandableness, was the award of merit given to Mrs. C. W. Edward. Its colour was all right, but I do not think there was a bud or a partly open bloom that had not several of the outside petals greatly disfigured by weather. Mr. McGredy said, "Ah! but the foliage is mildew proof!" It may be, but its flowers are not weather-proof; anything but that, it seemed to me. My good Irish friend looked very unwell. He was just a shadow of his old self. Eight weeks of bed with double pneumonia have left their mark. All his many friends will, I feel certain, join with me in hoping that Harrogate, where he is as I write, will set him up again.

THE FLOWER OF THE SHOW.

I would not have had the least difficulty where to place the golden apple had one come from the gods on this occasion labelled "To the fairest." I would have laid it at the feet of two perfect blooms of the pure white Innocence which graced the centre of Chaplin Brothers' group at the north-west corner of the Royal Horticultural Society's Hall. The beautiful undulation of the petals coupled with their good, rich, solid look, and their charming centre with the red and rose filaments of the stamens shimmering below their yellow anthers, made up as beautiful a Rose as I ever wish to see. Pax must retire!

THE "BELLE" OF THE SHOW

Ever since I first saw Isobel in the days of her youth in her home at Portadown I have set my cap at her. I am now her humble slave. Everyone is. Isobel was here, there and everywhere; and wherever she was she added distinction and charm to the group. It is a cowardly thing to do, and I know

I am not practising what I preach, but as words fail me in attempting to convey any idea of her beautiful warm rosy pink colouring, I just say "Too well known to need any description."

CAUGHT-MY-EYE ROSES.

At every Show certain Roses catch my eye, but for some unfathomable reason they are



ROSE MRS. HENRY MORSE, BRIGHT PINK SHADED SALMON.

not by any means always the same—Los Angeles at Cardiff in 1920 took my fancy very much, yet it left me cold now. They are sometimes very new-comers, sometimes "as old as the hills." Here is the list of some of those which caught my eye on September 21: Padre, Lady Pirrie, Betty Uprichard, Mrs. Oakley Fisher, Independence Day, Columbia, Mrs. Henry Morse, Katharine Zeinet, Emma Wright, W. E. Wallace and Glowworm.

JOSEPH JACOB.

FORTHCOMING EVENTS.

October 6.—United Horticultural Benefit and Provident Society's Meeting.

October 11.—East Anglian Horticultural Society's Meeting. Sheffield Chrysanthemum Society's Meeting.

October 12.—Bristol and District Gardeners' Association's Meeting. Wargrave and District Gardeners' Society's Meeting.

and erect growth. Large pointed blooms of pale chrome colour, and plenty of them.

Mrs. Curnock Sawday (H.T., Elisha Hicks).—A strong grower and effective garden Rose with pale pink blooms; sweet scented, but unfortunately liable to mildew.

Mrs. Fred Cook (Pernetiana, W. Easlea).—Not a strong grower, although the blooms come large and pointed, and are of a light terra-cotta pink shade. Almost big enough for an exhibition box. Sweet scented.

Mrs. H. R. Darlington (H.T., S. McGredy and Son).—Again an exhibitor's Rose, creamy yellow, with big blooms carried erect on stout, strong shoots.

Mrs. John R. Allen (H.T., Hugh Dickson).—Medium growth. The blooms are rather flat and dark pink in colour, with lighter pink on outside petals. None too free a bloomer, and not yet recommended here as a garden Rose until it is established mildew-proof.

Mrs. Tom Paul (H.T., Hugh Dickson).—Only a moderate grower, with creamy yellow blooms, flushed pink. It is a fairly free bloomer, but the blooms are flat in shape.

Mrs. W. A. Lindsay (H.T., Hugh Dickson).—A good grower, with creamy pink blooms, the centres of which are tinted a deeper pink. Almost big enough for exhibition. Plenty of strong shoots and a fine bedding variety. Slightly scented.

Olive Whittaker (H.T., W. Easlea).—An excellent grower. Blooms are large, semi-single, of a dark red colour, with bright golden stamens. The buds also are very fine. A very free bloomer, and a useful garden Rose to give an effective mass of colour. Slightly fragrant.

Padre (H.T., B. R. Cant and Sons).—Without doubt the strongest-growing Hybrid Tea of this season. Upright shoots carry large trusses of blooms, reminding us in growth of Dorothy Page Roberts, but a far more profuse bloomer. Unique colour—coppery scarlet flushed with yellow, and the buds are exceptionally long in the petals. An excellent bedding Rose which should never cause disappointment.

Peggy Astbury (Pernetiana, W. Easlea).—Bushy growth, moderately strong. Semi-single blooms, and quite a unique amber yellow colour, and with serrated edges. The colour seems to wash out in wet weather, but it is a good garden Rose worth trying, especially by those in search of a novel shade of colour.

Pink Bedder (H.T., William Paul and Son).—Straggly growth. Single pink blooms, which

unfortunately turn blue on maturity. Not a handsome-shaped plant or bloom; in fact, single pinks such as this are hardly called for.

The General (H.T., J. H. Pemberton).—A strong grower, but oh! the mildew! Large trusses of globular red blooms, which blue off. The only redeeming feature of the variety is the scent of the blooms, which is exceptionally sweet.

Tim Page (Pernetiana, W. Easlea).—Erect growth, with pretty, glossy foliage similar to our old friend Louise Catherine Breslau. Heavy yellow clean blooms, rather flat and sweet scented. A free bloomer and useful garden variety.

Vanity (Hybrid Musk, J. H. Pemberton).—A cluster Rose with semi-single blooms pink in colour. Summer flowering only.

Victory (H.T., S. McGredy and Son).—Erect growth, but not very strong, and hardly a profuse bloomer. The blooms are scarlet crimson with long pointed buds. We consider this variety has already been superseded by McGredy's 1921 Rose Princess Victoria, which is far superior.

If awards had to be given for the best Roses from the above list, which is as representative of 1920 new varieties as it was possible to find, and selecting therefrom the best bedding, the best exhibition and the best climbing Rose of the season, our choice for the first would undoubtedly fall on Padre. Hawmark Crimson would be a good second and Olive Whittaker third. Of exhibition Roses undoubtedly Mrs. Chas. Lamplough is the best, and Mrs. H. R. Darlington second. One climber only could be recommended, namely, Climbing Ophelia. HERBERT L. WETTERN.

NEXT YEAR'S SWEET PEAS

Alternative Methods of Cultivation.

IF one wishes Sweet Peas in good time next summer it is advisable to lay the foundation this autumn. If an autumn sowing outdoors is in contemplation the work should be put in hand immediately these lines are in print. Opinions differ as to the amount of preliminary ground working desirable in such a case. The writer's experience is that, given really good cultivation for an immediately preceding crop, it is better not to trench the ground before sowing the seed. The objection to deep cultivation is that it is not possible to get the ground really settled again before germination takes place. For Sweet Peas deep cultivation is essential, although, unless for exhibition (and important shows at that), it really is not necessary to work ground 2ft. or even 3ft. deep as is so often recommended. It is easy (dare I say too easy?) to write of trenching ground 3ft. deep, but it is by no means so easy to carry out in practice. Trenching as ordinarily carried out moves the soil to a depth of from 1ft. to 15ins.—more often a foot than the bigger depth—and to trench land 3ft. deep will mean, even given an easy working subsoil, five or six times the labour! The light, hungry, gravelly soil at Messrs. Sutton's, Reading, trial ground will be familiar to many readers. It is impossible to cultivate such ground deeply as at very little depth, nowhere more than a foot, one strikes clean, practically sandless gravel; yet by adding a few inches of loam to the surface — one way of getting depth—the Reading firm have succeeded in growing Sweet Peas which have proved a source of delight to countless visitors to London and Provincial shows! Still, deep cultivation must be practised if satisfactory results are to be obtained and if a recently trenched site is not available, the trenching

should be put in hand at once and the seeds be sown in pots and planted out in the then consolidated trench next spring.

Sowing in pots is generally considered to give better results than sowing direct in the trench, but *provided the plants stand the winter*, I am by no means certain of this. Alas! there's the rub! In the Midlands the plants often do not survive the trials of our changeable winters and even in the South there is an element of chance in the matter. If seeds are to be sown in pots, a nice turfy loam makes a satisfactory compost with, if alone it would tend to "set" too stiffly, a little manure from a spent hot-bed and, perhaps, a little coarse silver sand. It is wiser not to use leaf mould. For exhibition it is well to sow the seeds singly (having proved their germination by the simple expedient of just planting them in silver sand), in 3in. "Long-Tom" pots. This method takes up a deal of space, however, in the frames allotted for the purpose, more space, indeed, than is always available. This being so, many growers sow three or four seeds in a 5-in. pot (if "Long-Tom" so much the better!). The pots should be placed in a cold frame looking either south or south-west and some protection should be available should hard weather ensue, since the plant does not exist which likes to have its roots frozen inside a flower pot, to say nothing of the broken pots which are likely to be found when the thaw sets in! Border Carnations will probably withstand cold as well as any plants grown in our gardens, but even the Carnation specialists take steps to protect their young plants from being frozen solid in the frames! Beyond the necessary watering the young plants in pots will need little attention until early spring, though a sharp look-out must, of course, be kept for slugs and snails.

"Do plants raised from seeds sown in pots in autumn do better than those started early in the New Year?" is a question often asked. In the rather dry southern counties they certainly do, as the thoroughly well rooted plants establish themselves more quickly. Even further north they should have an advantage, but an exception must be made in the case of the suburbs of smoky towns. Winter fog and bad light tends to make anæmic plants. Artificial heat to the young plants also makes for debility. In the open country an English winter provides enough light for vegetation which, above ground, is practically at a standstill. Give artificial heat and growth commences and, there being an insufficient of sunlight to ripen the growth as formed, the plants become attenuated and their constitution is greatly impaired.

So much for the young plants which are to inhabit our trenches in the spring, but what of the trenches themselves. If an abundance of good, partially rotted horse dung (on heavy land), or cow dung on lighter soils, is available, it will be well to incorporate it well with the soil of each spit except the top one, but if there is a shortage, it will be better to reserve it all for the spit immediately below the top one. Other ingredients should depend somewhat upon the character of the soil and its active constituents, but it will do no harm to include a fair amount of wood ashes from the garden bonfire—if these contain a little charcoal, so much the better—and a couple of ounces to the square yard of finely ground bones. This is a safer fertiliser to use than bone meal, which too often contains an excess of free acid. Superphosphate of lime, which is admirable for Sweet Peas, may well be left until the plants are established and applied dissolved in water. The same remark will apply to such soluble nitrogenous manures as sulphate of ammonia or nitrate of soda.

The cultivation of Sweet Peas under glass is a test of a gardener's ability and knowledge of the basic principles which underlie horticulture. Most amateur gardeners make the mistake of sowing the seeds too soon and bringing the plants along too quickly. Exactly similar treatment to that afforded the plants intended for outdoors should prevail until lengthening day and strengthening light make healthy growth possible. Some of the big growers for market grow Sweet Peas under glass with haulm as robust as most amateurs can achieve outdoors! SUSSEX.

EDITOR'S TABLE

FROM Messrs. John Forbes (Hawick), Limited, there came to hand recently some magnificent spikes of large-flowered Pentstemons. These flowers are very difficult to describe in such a way as shall be helpful in making a selection. One needs really to see spikes or preferably, of course, the growing plants. Take the varieties which can only be described as rose-pink, white throat. The combined effect gives a fairly light and very pleasing light pink, as seen in the mass, but the description would suffice for Mrs. Joseph Chamberlain, Miss Botley (though the throat in that case is margined cinnamon and the colour rather deeper), Mrs. Callander, Mrs. A. P. Lyle (a very fine and towering spike), or the pretty Marchioness of Tullibardine. Fine spikes of all these varieties were included, together with representative crimson and purple-flowered varieties including Earl Haig, Alex. McRae and James McLeod, crimson, and A. Douglas Haddon, Dr. Barrie, Mrs. Murray and Miss Stewart Peter of the purplish class. A posy of blossoms of that brilliant Mignon Dahlia, Coltness Gem, was also included.

CORRESPONDENCE

THE TWELVE BEST SHRUBS.

IT has often occurred to me that an interesting subject for discussion in your correspondence columns would be on the best twelve flowering shrubs for gardens. To simplify the issue it might be well to stipulate that they should all be suitable for massing (not necessarily to an equal extent, however!), and that the soil for which they would be intended should be a rather light loam, such as suits the generality of shrubs.

My own selection would include a good Lilac (say *Souv. de L. Spatti*), a good Broom (*Cytisus scoparius Andreanus*), three Barberries (*B.B. Darwini*, *stenophylla* and *Aquifolium*), the Pearl Bush (*Exochorda grandiflora*), *Spiraea Lindleyana*, *Ceanothus Gloire de Versailles*, *Rhododendron Pink Pearl*, *Pieris floribunda*, *Escallonia macrantha* and *Rose Conrad F. Meyer*. It is only when one comes to make such a list that one realises what a variety of shrubs there now is and how really difficult it is to make a selection. Yet there must be many gardens which, if the shrubs are to be displayed effectively (and in groups), can only accommodate a dozen varieties or less. I hope some other of your correspondents will give their views as to the best dozen.—G. HARVEY.

[Our correspondent's suggestion is an interesting one and we shall be glad to hear readers' views on the matter. Our correspondent stresses the importance of grouping, but in a small garden we should, ourselves, group specimens of the different species and varieties of one genus or sub-genus together. This method enables a greater variety to be included without making for unnecessary

'spottiness.' It will be noted that the list given contains shrubs known practically to everyone. All of them are certainly excellent. It is a pity space could not be found for the beautiful *Eucryphia pinnatifolia*. Most people would probably prefer it to the *Pieris*. Not everyone will choose *Pink Pearl* as the best *Rhododendron* and few, we think, *Conrad F. Meyer* as the best *Rose* for the shrubbery. There are a number of fine *Rose* species which many would think more suitable.—ED.]

THE NEW ZEALAND FLAX.

HAVING for many years been a subscriber to THE GARDEN, I thought I would send you a photograph of a bed of New Zealand Flax (*Phormium tenax*) plants that have not flowered before during my residence here of thirty-seven years. The stems of the flowers are 11ft. to 12ft. high and the Flax leaves about 7ft. The picture does not really shew the height.

I should have had the figure of a man by it, but did not think of it.—H. G. GILES, *Com. R. N.*, *Alderstoake, Hants.*

FOR THE WOODLAND.

FOR open places in woodland or the margins of shrubberies I have found *Buphthalmum (Telekia) speciosum* a bold and striking plant, with great heart-shaped leaves in a lively green well above which are raised the tall and branching flower stems. The blossoms, which appear in summer and carry on well into autumn, are of the composite type, 2ins. to 3ins. in diameter, with long, narrow rays of a deep golden yellow which blends peculiarly well with the prevailing tints of approaching autumn. This is a free-growing, hardy perennial which will do well in almost any soil and one that looks particularly effective in groups of considerable size. Though doubtless a sun lover, *B. speciosum* does not object to half shade. A. T. J.

Many people who have no fondness for its flowers, which

are rather coarse individually and have a "greenish" smell, yet tolerate this plant gladly because of its attractiveness to coloured butterflies. Red Admirals, Peacocks and both species of Tortoiseshell are much attracted by it.



THE NEW ZEALAND FLAX IN FLOWER.

It certainly is an attractive and stately plant for wild garden or woodland.—ED.]

IDEAS FOR AUTUMNAL TABLE DECORATIONS.

THE season of autumn is drawing near and as we walk in our gardens or along the country lanes we note signs of its approach in the yellowing leaf and ripening berries and nuts. This year is especially noticeable for its show of wild fruits, and the Rowans, the delight of the artist and designer are scarlet with their clusters of berries, while *Rose hips* make no less decorative a subject. Fruits and autumn leaves make a welcome change for the vases in the house, after the profusion of summer flowers, and charming table decorations of endless variety may be carried out with them.

In the English bungalows in India, the native servants often make most artistic table decorations of petals, flower heads and leaves, laid upon the cloth in conventional or natural patterns round the lamps and flower vases and, though these schemes may be a trifle bizarre, the idea can be carried out in more artistic form with great effect. A central vase of bright *Rose hips* and leaves, such as those of the *Japanese Roses*, *Hybrid Sweet Briars* or *Moyesii*, with a pattern laid out upon the cloth in separated leaves around the vase and small bunches of hips at the corners or interspersed make a delightful decoration for a small table. A few



BUPHTHALMUM SPECIOSUM IN WOODLAND.

sprays of Blackberry bramble with fruit, surrounded by bunches of Cob or Hazel nuts picked with some foliage, and four corner bunches laid upon the cloth, is very effective. Crab Apples lend a vivid dash of colour among the Nuts in this scheme. For a more elaborate decoration, autumn leaves with trailers of "Traveller's Joy" (Wild Clematis), circling the table lamps and vases can be made to look charming. There is material in plenty in our gardens and hedges to suit individual taste, and our luncheons and dinners may be quickly and tastefully decorated so that the table furnishes a feast for the eye as well as for the appetite.—M. E. B.

A HINT TO ROSE GROWERS.

I HAVE been very interested to read Mr. Wettern's opinion of the New Roses of 1920 and am anxiously awaiting the concluding portion. I do wish our nurserymen would not attach to new Roses, even after they have grown them for a season or two, the raisers' description, or an abbreviation of it. Such a description is quite valueless for shewing the real worth of the variety. I was really moved to write this letter by receiving a rose list which not only appears to contain *original* descriptions, but has very candid opinions of Roses of recent introduction, including most of the 1921 novelties. Will other rose-growers kindly copy! The list referred to is that of Messrs. A. J. and C. Allen of Norwich. I have not tried their trees so far, but shall certainly obtain what few I need this season from them as I have heard excellent reports of their stuff from friends. I have no interest whatever in the firm.—T. H. W.

WALLFLOWERS IN WINTER.

AS soon as the summer bedding plants have been removed, I find it a good plan to substitute Wallflowers. The Wallflowers are valuable during the winter months on account of their nice green foliage. In the spring the plants will produce a wealth of blossom. Apart from their beautiful colours the flowers will be greatly welcomed on account of their delightful fragrance, coming at a season when fragrant flowers are somewhat scarce. The Wallflowers will have fulfilled their important part in the embellishment of our gardens in time to make way for the early summer flowers.—G. H.

A NEGLECTED PERENNIAL, TROPÆOLUM.

THE glory of *Tropæolum speciosum* where it thrives and garlands with its scarlet flowers the fronts of houses or clammers over hedges and shrubs, has perhaps militated against the greater employment of other perennials of the same genus, but there have been other causes at work to hinder the gardener from utilising the charming *T. tuberosum*, whose pretty green foliage and scarlet and orange flowers are so attractive in their own way. The main drawbacks to its use are its shyness of flowering in some gardens and its want of complete hardiness in certain soils and districts. Its shyness of flowering has often been the subject of complaint and some ninety years or so ago, as we gather from the horticultural literature of the time, it was troublesome, and numerous devices were tried to overcome the difficulty. Now, however, that we seem to have grasped the fact that there are free-flowering as well as shy stocks, and that by a process of selection and careful elimination of poor stocks we can obtain much better results, it should become more popular. The other defect of want of hardiness in some places is not easily overcome. It is certainly not safe to leave out the tubers in winter, except in a

very well drained soil and in fairly mild districts. The prudent course is to lift the curious tubers after the foliage has been cut down by frost and to store them in dry sand out of the reach of frost until spring, when they can be treated like Potatoes, and either planted out in April, at a depth of 6 ins. or so, or started in boxes and put out in May after danger from frost is over. Where happy, this charming climber will give masses of its scarlet and orange flowers in July and August and until frost comes to deprive it of its beauty.—S. ARNOTT.

WILD FLOWERS AT COUNTRY SHOWS

LOCAL flower shows are of immense interest and benefit to the districts concerned, and where gardens are not exactly the strongest point they may be augmented by industrial exhibits and even by dogs, as in the case of one visited recently. Here very good prizes also were offered for wild flowers, which were certainly excellent—I have never seen a more varied assortment. They gave me food for much thought and the reason for this note. "The best bouquet of Wild Flowers," is usually the wording of the schedule—and the poor unfortunates are tightly tied up

FOR INDOOR DECORATION.

ONLY those who have seen leaves and berries adequately used as a table decoration can realise the beautiful effects possible. Many years ago it was my duty to assist in the work of decorating a nobleman's dinner table in one of the northern counties. In the shooting season it was usual to have a different scheme of table decoration each night for about six weeks, and, although the garden was a large one and well furnished, the tax on it was very considerable. One year the head gardener sent out several men to collect berries, leaves, moss and bark in the woods. Flowers were not used at all, the table—more than 20ft. long—being decorated entirely with the foliage and berries. Result—general approval and a request to repeat the decoration several times!—GEO. GARNER.

A FINE YELLOW TRAILER.

WHY is it, I often wonder, that that brilliant yellow trailer, *Tropæolum polyphyllum*, is so seldom seen in gardens? One can easily understand why *T. speciosum* is not largely grown in Southern gardens—because it is difficult. The lack of appreciation for *T. tuberosum* is also explicable. There are so many folk nowadays



THE GOLDEN TROPÆOLUM POLYPHYLLUM AMONG ROCKS.

regardless of number or arrangement and crammed into a jug or other receptacle much too small for them. In this case, to the credit be it said of the exhibitor, the specimens were all very carefully and correctly named, although it was difficult owing to the overcrowding to find the labels on all the ninety or more specimens in the first prize collection.

With all due deference to committees and generous prize-givers, I would respectfully make the following suggestion:—All wild flowers to be shewn arranged in the natural order, one order only in a vase—the number of species in the vase limited according to table space. For the largest orders two or more vases might be necessary. The name of the order on a large label with the specific names below. Points to be given for the largest number of orders represented and further points for the species.

Educationally this should prove beneficial both to exhibitors and visitors alike, and give our beautiful wild flowers a better chance of being appreciated at their true value.—W. DUGGAN.

who will not grow even *Gladioli* because the corms must be lifted and stored; moreover, the quaint plant with the turban-like tuber is more lavish of growth than flowers in some gardens. I can only attribute the lack of appreciation of *T. polyphyllum*, however, to its easiness. Quite hardy outdoors here in Warwickshire, it increases year by year without dividing or attention. If it sometimes flings its beautiful glaucous trails and gallant yellow blossoms over other plants, these seem none the worse when at length the trails wither and are removed.—H. H.

NARCISSUS BERNARDINO: A CORRECTION.

BERNARDINO intended to say (September 23, page 480) "I am not a politician and my other habits are good." The quotation from Artemus Ward's Fourth of July Oration was suggested by the parallel changeableness of certain politicians and the colour of its cup under the stress of external conditions.—JOSEPH JACOB.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

General Work.—Take the opportunity on dry days to eradicate weeds, particularly from where crops are still growing and will be occupying the ground for several months. Where the main batch of Leeks were not holed in, a little moulding up may be necessary so that blanching may be commenced. Turnips fully grown should be lifted and stored in a cool outside pit, otherwise they will become pithy and useless. During the brightest part of the day push on with the lifting of late Potatoes. Should there still be Tomatoes outside, the trusses should now all be cut and those not worth ripening off will be useful for chutney.

The Flower Garden.

Roses.—Planting-time will soon be with us, and where a considerable quantity has to be dealt with, necessitating the making of new beds, the preparation of such should be seen to in good time, so that no delay need be experienced when planting-time actually arrives. Should the order not yet have been placed, no time should be lost before doing so.

The Hardy Fruit Garden.

Fruits to Plant.—To attempt much advice on this subject in a brief note is quite useless, but for the benefit of intending planters who have neither the time nor inclination to go into the matter very much a few reliable varieties are given below. It must be distinctly understood that no attempt has been made to make out an up-to-date, comprehensive list. The order of ripening may be taken as names are given. *Dessert Apples.*—Beauty of Bath, James Grieve, American Mother, Ribston Pippin, Cox's Orange Pippin and Wyken Pippin. *Culinary Apples.*—Lord Grosvenor, Stirling Castle, Bramley's Seedling, Lane's Prince Albert and Newton Wonder. *Dessert Pears.*—Williams's Bon Chretien, Beurre d'Amanlis, Marie Louise, Doyenne du Comice, Glou Morceau and Josephine de Malines. *Culinary Pear.*—Catillac. *Dessert Plums.*—Rivers' Early Prolific, Oullin's Golden Gage, Green Gage, Jefferson and Coe's Golden Drop. *Culinary Plums.*—Czar, Victoria and Monarch. *Damsons.*—Frogmore Prolific and the Merryweather. Prospective planters with but little experience of soils and suitable varieties would do well to get in touch with a good local grower and get his advice, or give particulars of soil, etc., to a reliable nurseryman.

Fruit Under Glass.

Tomatoes.—Should the winter fruiterers have been growing outside they should at once be housed, for no reliance can now be placed upon the weather. To obtain good results a light, airy structure is necessary with only the welfare of the Tomatoes considered. By keeping the hot-water pipes nicely warmed plenty of air can be kept on, and this is most important, particularly for the first few weeks after taking the plants indoors. About four trusses of fruits are enough for each plant to carry, or less if the plants are not in good health. As the days become shorter and less sunny avoid overwatering, and care should be taken with the application of stimulants.

H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Cucumbers.—Plants coming into bearing must be accorded considerable treatment at this time if the crop is to be a success. Maintain a night temperature of 95° so that free growth may be encouraged, at the same time being careful to see that all unnecessary growths are kept well thinned out and only a moderate quantity of fruits left to develop. Spray only on fine days, as a low temperature and dull, sunless weather encourages the spread of mildew. The plants will benefit by occasional top-dressings of loam and leaf-mould.

Winter Spinach.—During dry weather this important crop should be further encouraged by frequent stirring of the soil between the rows. Make sure that the plants are not too dense in the rows, otherwise the foliage weakens and suffers more readily from severe frost than that

which has been allowed more space to develop a sturdy growth.

Tomatoes.—Continue to assist all late-fruited plants by giving frequent applications of weak liquid manure. A little warmth must also be kept in the pipes now so that the ripening of the fruit may be quickened. In establishments where winter-fruited Tomatoes are grown the flower trusses should be lightly tapped every day to assist in fertilisation.

Winter Salads.—Attend to batches of Lettuce in frames, keeping the soil well stirred and giving a light dusting of soot around the plants to keep slugs in check. Mustard and Cress will now prove more satisfactory if grown in boxes in a warm greenhouse or forcing pit, sowing every ten days or so.

Seakale for Forcing.—In gardens where this delectable vegetable is grown in quantity for forcing purposes every opportunity should be given the crowns to ripen properly, so where the foliage is turning yellow it should be removed, thus allowing the crowns to be more fully exposed to the influence of sun and air.

The Hardy Fruit Garden.

Fruit Picking.—Gather Apples and Pears whenever ready, exercising extreme care in handling. See that no damaged fruit is stored. All windfalls should be laid aside and used first. After the trees are cleared of their crop all broken or lacerated branches should be cut clean off and the wounds painted with Stockholm tar.

Fruit Under Glass.

Vineries.—In late vineries where the Grapes are now ripening freely the utmost care must be taken when ventilating the structures, as the shortening days and the cold, damp nights all tend towards encouraging mildew or rotting of the berries. Assist the ripening process by the judicious use of fire-heat, maintaining a warm, dry atmosphere. If a mulch of dry litter is applied to the border it will check evaporation and thus save the necessity of frequent watering.

The Flower Garden.

Pæonies.—These plants as a rule resent being disturbed about their roots, but established beds will give satisfaction for several years if accorded a liberal top-dressing of farmyard manure at the start of the growing season. Where the planting of new beds or groups of these plants is contemplated no time should now be lost in having the ground prepared for their reception. Dig the beds deeply, at the same time incorporating a generous quantity of well rotted manure and leaf-mould. Do not plant too closely, allowing reasonable space for the plants to develop and show their handsome blossoms to the best advantage.

Wintering Bedding Plants.—The softer growing types of bedding plants which are generally stored in genial quarters for the winter, such as Heliotrope, standard Fuchsias and Lantanas, should now be dug up and potted, placing them in a warm, moist pit for a week or two until they have recovered from the check. Roots of Lobelia cardinalis should also be lifted now and packed closely together in ordinary cutting boxes, working sand or fine soil round the roots. Stand the boxes in a cool frost-proof frame for the winter. Tuberous Begonias should also be lifted now and laid in a frame until the foliage dies down, when they can be stored in a dry loft where they will be free from frost.

JAMES MCGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),
Coddham, Kilmarnock.

GREENHOUSE AND CONSERVATORY.

Crocuses as represented by the large named varieties of *C. vernus* are well worth growing in pots or pans for the cool greenhouse; in fact they are ideal for the small unheated house. They are also excellent for growing in bowls of fibre. Their cultivation is of the simplest, as they grow well in any ordinary good garden soil and require cool treatment; in fact, any attempt at forcing will end in failure. If brought on in a cool greenhouse they will flower just before those growing outdoors. After potting they should be stood outdoors and covered with ashes. Any of the named varieties are suitable for this work, and they can be had from pure white through varying shades of lilac, blue and purple, as well as striped. The many beautiful spring-flowering

species are also suitable for growing in pots or pans for the small unheated greenhouse, or even with the shelter of a cold frame. Mice are very fond of Crocus corms, and a sharp look-out must be kept for them at all times, whether the corms are in store or potted up.

Irises and Other Bulbous Plants.—There are many beautiful species and varieties of Iris that may be successfully grown in pots for the cool greenhouse. Although they are all more or less hardy, they are well worth the shelter of a cool house or frame, as many of them flower so early that they are apt to get damaged by inclement weather. The species and varieties suitable for this work are the bulbous-rooted section as represented by *I. I. alata* and its varieties, *Bakeriana*, *Danfordia*, *orchioides*, *reticulata* and its varieties, *Vartani*, *persica*, *Histrio*, and *tingitana*, the latter a tall-growing species which is worth growing in quantity for cutting. Grown in this country, it is very shy flowering, but imported bulbs usually flower freely. The English and Spanish Irises may also be grown in pots, and are worth growing in quantity in boxes for a supply of cut flowers. The *Onocycclus* and *Regelio* species are notoriously difficult, but *I. I. iberica* and *Susiana* can be successfully grown in pots, and always attract by reason of their extraordinary colouring. The *Regelio-Cycclus* hybrids are more amenable to cultivation, and there are many beautiful varieties among them, some of the most distinct being *Artemis*, *Charon*, *Hecate*, *Hera*, *Jocaste*, *Mars*, *Osiris* and *Psyche*. They require a good medium loam, with the addition of old mortar rubble, to ensure free drainage; three or four good rhizomes may be placed in a 6in. pot. They should be stood in a cold frame fully exposed to all possible sunshine. Water very carefully until they have made plenty of roots and have commenced to grow. They require perfectly cool treatment, and should be given plenty of air on all favourable occasions. The rhizomes should be potted up within the next month or so. There are quite a number of bulbous and tuberous rooted plants that should be more generally grown for the cool greenhouse. Some of the smaller-growing ones are well suited for the small unheated greenhouse, *Scillas*, *Muscarias* and *Chionodoxas* being good examples of what I mean. There are quite a number of others, such as *Allium neapolitanum*, which produces a profusion of pure white flowers. *Anemone fulgens* can be very fine if well grown in 6in. pots. Some old mortar rubble should be added to the potting compost, as this plant is a lime-lover. The double *Anemones*, such as *King of the Blues* and *King of the Scarlet*, are also well worth growing in the same way, while the blue *A. apennina* and *A. blanda* should be grown in pans. *Ismene calathina* also does quite well in an ordinary greenhouse, while *Ixiolirion Pallasi* is very pretty if some six or eight bulbs are grown in a 48-sized pot. *Moutbretia rosea* is also very graceful and free flowering, and is best grown in 6in. pots. *Ornithogalum arabicum* is a very beautiful plant, but is very uncertain in flowering. The examples given will serve to show that there are quite a number of plants that can be used for this purpose. It is true many of them are hardy, but it is a great pleasure to many people to enjoy their beauty indoors in the cool greenhouse. Their cultivation is of the simplest, as most of them grow freely in any ordinary potting compost. They only require the shelter of a cold frame until such time as they show signs of flower, when they may be removed to the greenhouse. Hyacinths and all other bulbous plants used for forcing should now be potted with as little delay as possible.

Royal Botanic Gardens, Kew.

J. COITTS.

TRIALS AT WISLEY

PERENNIAL PHLOX.

The following awards have been made to Perennial Phloxes by the Council of the Royal Horticultural Society after trial at Wisley.

WHITE.—*Award of Merit.*—Mia Ruys and Frau Ant. Buchner, sent by Mr. Jones and Messrs. Ruys; La Neige, sent by the R.H.S.; Abel Tasman and Netty Stuart (*suffruticosa*) = Snowdon, sent by Mr. Jones; Europe, sent by Mr. Jones, Messrs. Forbes and Messrs. Ruys.

PINK.—*Award of Merit.*—Selma, sent by Mr. Jones, Messrs. Ruys and Messrs. Forbes; Mrs. W. Hargreaves, sent by Mr. Jones; Bridesmaid and

Liberty, sent by Mr. Prichard. *Highly Commended*.—Peach Blossom, sent by Mr. Prichard; Mrs. A. H. Dykes, sent by Mr. Jones; Mnie. Paul Dutrie, Mrs. Milly van Hoboken, Panthéon and Météore, sent by Mr. Jones and Messrs. Ruys.

SALMON.—*Award of Merit*.—Elizabeth Campbell and Mrs. Scholten, sent by Mr. Jones and Messrs. Ruys; Mrs. F. P. Steward, sent by Mr. Jones. *Highly Commended*.—Evelyn and America, sent by Mr. Jones and Messrs. Ruys; C. Edwards and W. Robertson, sent by Mr. Jones; S. Pope, sent by Messrs. Dickson and Robinson; Marion Riddle, sent by Messrs. Forbes; Cocinea, sent by Mr. West.

ROSE.—*Award of Merit*.—Jules Sandeau, sent by Mr. Jones and Messrs. Ruys; Württembergia, sent by Messrs Ruys (the above two varieties are considered identical); Thor, sent by Mr. Jones and Messrs. Ruys; Mrs. Callander, sent by Messrs. Forbes; Elsie Walker and H. J. Jones, sent by Mr. Jones. *Highly Commended*.—Splendour and Glory, sent by Mr. West; Rijnstroom, sent by Messrs. Ruys, Messrs. Forbes and Mr. Jones; Knucken, Florrie Freeman, Tom Abbott, Muriel Rogers and Marshal French, sent by Mr. Jones; Lady Wilson Todd, sent by Messrs. Forbes; Mrs. Noordewier, sent by Messrs. Ruys.

ORANGE-SCARLET.—*Award of Merit*.—General van Heutz and Mrs. Bevil Fortescue, sent by Mr. Jones; Minnie West and Brilliant, sent by Mr. West; Deutschland (= Homeland) and G. A. Strohleim, sent by Messrs. Ruys, Messrs. Forbes and Mr. Jones. *Highly Commended*.—Baron van Dedem, sent by Messrs. Ruys, Messrs. Forbes and Mr. Jones; Ruby King, sent by Mr. Prichard.

MAUVE.—*Award of Merit*.—Mrs. L. Stewart Watson, sent by Messrs. Forbes; Lofna and Marie S. Jacob, sent by Messrs. Ruys and Mr. Jones; Mrs. H. Rossitur, sent by Mr. Jones. *Highly Commended*.—Asia, sent by Messrs. Ruys and Mr. Jones.

VIOLET.—*Highly Commended*.—Marvel, sent by Messrs. Forbes.

PURPLE.—*Highly Commended*.—William Ramsay, sent by Messrs. Ruys and Mr. Jones.

FLUSHED.—*Award of Merit*.—Mrs. H. J. Jones and Mrs. A. Jeans, sent by Mr. Jones; Riverton Jewel, sent by Messrs. Ruys and Mr. Jones.

BEET.

THE following awards have been made to Beet by the Council of the Royal Horticultural Society after trial at Wisley. Judged August 2, 1922.

Award of Merit.—Egyptian re-selected, sent by Messrs. Carter.

Highly Commended.—Crimson Globe, sent by Messrs. Hurst; Express Crimson Globe, sent by Messrs. Dickson and Robinson; Reliance Globe, sent by Messrs. Webb; Eclipse Turnip-rooted, sent by Messrs. Barr; Perfect Model Globe, sent by Messrs. Kelway.

Commended.—Globe selected No. 2, sent by Messrs. Dobbie; Crimson Globe (sent as Model Globe), sent by Messrs. R. Veitch; The Cooper-Laber Turnip-rooted, sent by Messrs. Cooper, Taber.

Judged August 16, 1922:

Award of Merit.—Feltham Intermediate, sent by Messrs. Watkins and Simpson.

Highly Commended.—Intermediate, sent by Messrs. King; New Intermediate, sent by Messrs. R. Veitch; Queen Mary, sent by Messrs. Harrison.

SWEET PEAS.

THE following awards have been made to Sweet Peas by the Council of the Royal Horticultural Society after trial at Wisley:

Awards of Merit.—Hebe and Fair Lady, sent by Mr. J. Stevenson; Hawlmark Salmon-

pink, sent by Messrs. A. Dickson and Messrs. Cullen; Cottage Rose, sent by Messrs. Birtles; Royal Cherry, sent by Messrs. H. Dickson; Doris, sent by Messrs. Dobbie, Messrs. King and Messrs. Webb; Picture, sent by Messrs. Dobbie and Messrs. Webb

Highly Commended.—Mavis and Mignonne, sent by Messrs. King; Joan of Arc, sent by Mr. J. Stevenson; Annie Bownass, sent by Messrs. Cullen and Messrs. A. Dickson; Hawlmark Pink No. 1, sent by Messrs. Unwin and Messrs. A. Dickson; Rosamund, sent by Messrs. H. Dickson; Glory and Mrs. Jessop, sent by Messrs. Bolton; Hawlmark Cerise, sent by Messrs. A. Dickson; Eva, sent by Messrs. S. F. Curtis.

HALF AN HOUR AMONG THE SHRUBS

THESE is no day in the year when one cannot find some special interest in the garden. During the growing season every twenty-four hours brings big changes. Spring, of course, takes premier place for development, but the days as they go on through the year bring other changes in general feature, and it is wonderful what special beauty can be found even on the dearest and dullest day of winter. Some effect of light or shade will bring out the colour of some special plant which on another day is passed over.

To-day, brilliant sunshine and light following yesterday's heavy rain and wind, the first touches of autumn colour and fruit were the dominant features, and I specially noted a wild Cherry poking its head through the Chestnut and Oak, a brilliant patch of yellow and crimson. Snowy Mespilus on one side is already beautiful, and Acer Ginnala, one of the Chinese scrub Maples, is glorious in a sunny corner on rather poor ground. One or two of the Japanese Maples are also doing their bit. But most brilliant of all, as far as to-day's foliage is concerned, was a good-sized bush of *Vaccinium pennsylvanicum*, and one of its great charms is the length of time it holds its foliage.

Some of the Berberises caught my eye to-day, and surely as some of the varieties of this wonderful family become more generally known they will be planted in quantity. Those I saw specially were *B. lucida* with its rather large fruits, brilliant red, and the weight of the fruit on each bough sufficient to separate them in graceful semi-pendulous fashion. *B. asiatica*, with its fruit partly black with ripeness and the remainder coloured with a glaucous bloom, shone like silver with the sun touching the fruit still laden with the moisture of the night. *B. brevipaniculata*, *B. subciliolata* and *B. coccinea* were all laden with fruit and a joy to behold. A plant of *B. verruculosa* planted on a dry poor bank was turning colour and was a rich crimson, with the silvery shine of the underside of the leaf shewing up as the wind from time to time rustled through the foliage.

Some American Thorns are laden with fruit, and many of these bear well in this country and give every promise of being a valuable addition to our gardens, where fruit and autumn colour are always welcome. *Crataegus durobrivensis*, *C. mollis* and *C. cordata* are worthy of a place in any collection. The last time I was over in the States I was much struck with the wonderful collection of these plants, collected to very large extent by Professor Sargent himself and running into many hundreds of species. Among them I specially remember the section of what he called dwarf forms, which may eventually prove to be good plants over here.

Aronia floribunda was very beautiful with its black fruits and foliage already in full autumn tint.

Cotoneasters are bearing their various tints in great profusion, and I was specially charmed with the flowers of *Buddleia magnifica* and *Ceanothus Gloire de Versailles*. F. GOMER WATERER.

DAFFODIL SILVER PLANE

A Great Dominion Flower.

DURING the first week of September I have been enjoying the sight of this very excellent Daffodil in my own garden in superb condition. I doubt if anyone in England has ever seen the variety, except he happened to be at Christchurch Show early last September, or, better still, to have paid a visit to Sir Heaton Rhodes' famous garden—Otahuna—at Tai Tapu about the same time. In the happy days when I was able to get about among Daffodil people we often used to discuss the quality of Dominion-raised flowers. At the moment I can only recall two varieties which have ever appeared in decent form at English shows, viz., Pink 'Un, a famous Australian flower, and The Hon. R. J. Seddon from New Zealand. Both, at different times, were exhibited by Mr. A. M. Wilson and attracted much attention. Pink 'Un is a very good flower—quite, in my opinion, first rate, but other judges thought the pinky colouring of the edge of the large cup was not decided enough and gave it rather a washy appearance. In Silver Plane New Zealanders have a variety of which they may well be proud, and I heartily congratulate Mr. Lowe and Sir Heaton Rhodes on its production. Need I say more than that it would grace any twelve ever shown in the Bourne Cup Competition, and I have seen all of them except those of 1922? My good friend Bourne, certainly one of the best judges who ever judged a Daffodil, loved Diana; he told me so more than once, and at his death, when his collection came into the market, I was not surprised to see that he had more of this than of any other variety. How he would have liked Silver Plane! It is Diana brought up to date. The white, wide, pointed, beautifully smooth, overlapping perianth segments round the deep lemon, saucer-shaped corona, with its edge more pronounced than the interior, make up a Leedsii of very great charm. The Otahuna List of Seedling Daffodils (1921) gives its diameter as 4½ ins. and describes the centre as "pale yellow changing to white." My flower, from quite a small bulb (planted in a pot, May 10th, 1922), is but 3½ ins., with the centre just an inch across, and as yet, after being open over a week, shows no sign of going white, but, on the contrary, it is rather becoming deeper in colour, especially towards the edge. I am very greatly indebted to Mr. Hine, Editor of the *Canterbury Sun*, for a detailed description of the flower by himself, made on the spot, on one of his many visits to Sir Heaton's beautiful garden. It shows what a keen lover of the flower thinks of it, and at the same time it will free me from any charge of exaggeration in what I have written:

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I sincerely thank Sir Heaton and Mr. Lowe for their kind gift, which has enabled me to see, in this my lean year, a flower which has a very good chance indeed of becoming world-famous. JOSEPH JACOB.



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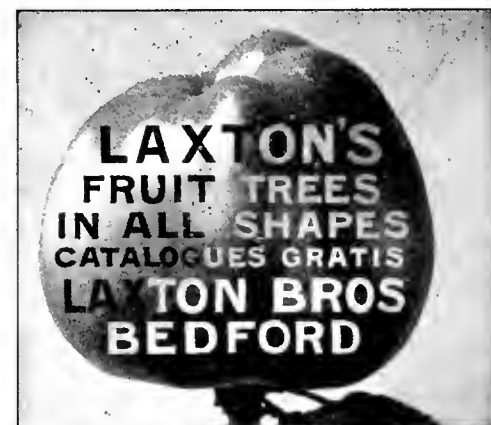
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HERBACEOUS PLANTS and THEIR USES

THE obvious way to use herbaceous plants is in a more or less formal border, and this, it must be confessed, is a quite excellent way. Such a border will front to a lawn or path; if a path, it will be well for the sake of balance of effect to plant herbaceous plants on either hand. We then get what is known as a herbaceous walk. It is not advisable to plant dwarf Roses to balance herbaceous plants. The effect produced is usually unsatisfactory, both as regards "weight" and colouring. A herbaceous walk lends itself admirably to the use of colour schemes, and as, to be satisfactory, the borders should be backed by substantial hedges (or walls), there is no difficulty in fitting such colour gradations into the general garden scheme.

Such borders may be rendered far more effective than they could otherwise be by the introduction of many bulbous plants—May-flowering Tulips, Daffodils, Gladioli (both early and late flowering), Montbretias, Schizostylis and, above all, Lilies. Their effect may be still further enhanced by the employment of rather dwarf shrubs with silvery, greyish or glaucous foliage, such as many of the Southern-woods (*Artemisia*), and Lavender, with such tender and scarcely hardy plants as Dahlias and Chrysanthemums. Certain Grasses may be employed with advantage also, notably some of the species and varieties of *Miscanthus* (*Eulalia*) and that beautiful bronze purple Barley, *Hordeum jubatum*.

If shrubs are useful as foils to herbaceous plants, some of the latter are equally effective and valuable

in the shrubbery. The bulk of herbaceous plants flower when blossom is scarce in the shrubbery and the green background of the shrubs shews to advantage the generally brilliant colouring of the "groundlings." Some plants there are which have a natural grace particularly suitable for the shrubbery. Such are the Torch Lilies (*Kniphofia*), the Delphiniums, the Foxgloves (*Digitalis*), such *Campanulas* as *lactiflora*, *latifolia* and *alliarifolia*, *Bupthalmum* (*Telekia*) *speciosum*, several of the giant Knotweeds (*Polygonum*)—but only in the wild garden, not the cultivated shrubbery—*Spiraea Aruncus*, *S. palmata* and the various forms of the Meadowsweet—*S. Ulmaria*—

roseum, the Evening Primrose (*Oenothera biennis*), *Verbascum* of sorts and *Anemone japonica*, both pink and white.

Such plants as the forms of *Achusa italica* and the beautiful *Cynoglossum amabile* are more sophisticated in outline, but invaluable none the less for the glorious blues they afford. *Salvia virgata nemorosa* is invaluable for half-shady glimpses, and the Azure Sage, *Atriplex Perovskiana*, might be included, but is really sub-shrubby. The same remark will apply to *Romneya*.

Some plants there are which seem made for the paved garden. Delphiniums are especially happy there when of mauve or violet colouring,

though the clear blues look well enough. The deep crimson *Lobelia fulgens* *Queen Victoria* is admirable but in almost all districts needs protection in winter, agreeing in this respect with the florists' *Pentstemons*, which are also good for the same purpose. Some of the large-flowered sorts, if free, are valuable, e.g., *Emile Rodigas*, but, generally speaking, the small-flowered sorts, such as *Newbury Gem* and *Southgate Gem*, are most satisfactory. *Newbury Gem* is hardy enough to stand the winter outdoors in many districts, but if it is to be a real



THE GRACEFUL *CAMPANULA LACTIFLORA ALBA*.

several Goats' Rues, notably *Thalictrum aquilegifolium purpureum*, but also including *T.T. flavum* and *glaucum*, *Lavatera Olbia* and *thuringiaca*, the *Sidalceas* and *Mallows*, *Asphodels* (both white and yellow) and the various Giant *Asphodels* (*Eremuri*), *Achusa myosotidiflora*, *Salvia uliginosa*, such *Michaelmas Daisies* as *Climax*; *Monarda didyma Cambridge Scarlet*, *Lythrum Salicaria*

success needs renewing from cuttings at least every second year. Such things as that invaluable Catmint, *Nepeta Mussini* and *Anthemis Cupaniana* will occur to most people for such a garden, so will the peach-leaved *Campanula*, *C. persicifolia*, *Crimson*, soft pink and soft yellow *Antirrhinums* are all admirable. Though classed officially as hardy perennials, these are almost universally



PENTSTEMON DAYDREAM IN THE SHRUBBERY.



THE LARGE EVENING PRIMROSE, OENOTHERA BIENNIS GRANDIFLORA AMONG PÆONIES.



THE MICHAELMAS DAISY BORDER AT ALDENHAM.

grown as biennials, but it is worth while increasing stock vegetatively for one year to obtain exactitude of shade. Cuttings from seedlings should produce vigorous plants. Cuttings from plants grown from cuttings are, too often, unsatisfactory. The dwarfier sorts, however, when raised from seed may be readily rogued and replaced even when in flower, for they lift and transplant readily. The tall varieties so useful in many situations are less amenable in this respect.

Other plants especially suitable for the paved garden include mauve and soft yellow Violas, Carnations and Pinks—including Allwoodii and Herbertii and, if liked, the new Perpetual Border Carnations—Michaelmas Daisies, particularly Aster acris and the varieties of the Amellus section, many Phloxes, Campanulas lactiflora and carpatia, herbaceous Peonies, Pyrethrum (particularly single ones), Artemisia lactiflora, Thalictrum aquilegifolium purpureum and diptero-carpum and Salvia Tenori. Thalictrum diptero-carpum makes all other members of the genus look not worth growing, but unfortunately its want of vigour in our climate has to be set against its greater refinement when comparing its value with that of the purple form of *T. aquilegifolium*.

Herbaceous plants are often used in gardens to form beds or borders including only one or two or perhaps three genera in each bed, border or walk. A border may, for instance, be planted entirely with Michaelmas Daisies or with Delphiniums, Phloxes, Campanulas, Chrysanthemums, Pentstemons, Antirrhinums or Torch Lilies, or Delphiniums may be associated with Madonna Lilies with or without Nepeta, and the whole will serve as a delightful foil to the reds and pinks of climbing and rambler Roses. Michaelmas Daisies associate well with various Golden Rods (*Solidago*) and Perennial Sunflowers (*Helianthus*) or, again, with Torch Lilies. Chrysanthemums and Michaelmas Daisies are sometimes associated happily together, especially if the lighter yellow and crimson Chrysanthemums are relied upon. Pentstemons and Antirrhinums do not associate well together as a rule, for the lustrous flowering of the Snapdragons kills the "flatter" finish of the Pentstemons. Soft yellow "Snaps" and crimson Pentstemons form a happy exception to this rule, while white Antirrhinums may be used to counterbalance the want of crystal white in the Pentstemon. Though no dead white exists, the palest shades of Pentstemon, whether faintly touched with pink or mauve, are very beautiful and especially attractive in the gloaming when rich colours appear black. The great drawback to these limited associations as to beds and borders of one genus (often one species) is the shortness of time during which they are effective. Take a Phlox border, for instance. A little spring colour may be provided from a foreground of Aubrietia, Arabis or Alyssum associated with spring-flowering bulbs, but with this exception the border must be destitute of colour except for perhaps six weeks of the year, nor will it be at anything approaching its best even for that comparatively short time.

For the not overlarge garden an association of Peonies with Delphiniums and Daffodils is far more desirable as providing a display of colour over a long period, though necessarily the colour effect at any one time is somewhat restricted. That again is where the use of herbaceous plants in the shrubbery scores. Michaelmas Daisies alone produce an effect for a month or so and little of interest for the remainder of the year, but establish in bold drifts of one suitable variety among shrubs, and if careful selection be made, interest can be maintained throughout the year. The close-growing forms, such as the small-flowered ericoides varieties and those intermediate

in type, like *St. Egwin*, are not suitable for such grouping. *Climax laevis*, the late-flowering and typical *vimineus*, the spreading *diffusus* horizontalis and the *Amellus* forms are all excellent, and may be taken as typical of the habits which are desirable in the shrubbery. There are, of course, a multitude of suitable varieties.

Wherever herbaceous plants are grown, very thorough preparation of the ground should be given. Almost without exception fairly rich sweet soil is called for if success is to be obtained. In every case good and deep cultivation prior to

planting will be beneficial. The peculiarities of different genera and species as regards aspect, etc., must always be borne in mind. Phloxes, for instance, like a rich soil with a good moisture content, but they are by no means bog plants. An easterly or westerly aspect suits them better than a site exposed to the direct and sometimes pitiless rays of the sun. Spiraeas also like an abundance of moisture and partial shade. An exception in this regard is *S. Aruncus*, sometimes called the Goat's Beard, which succeeds impartially in light soil or heavy sun or shade.

consider the timber of this tree the most serviceable, superior to that of *P. serotina* and *P. Eugenei*. Free in growth, *P. robusta* quickly forms an attractive tree with large ornamental leaves.

P. generosa is a hybrid of remarkably quick growth raised ten years ago by pollinating *P. angulata* var. *cordata* with pollen of *P. trichocarpa*. Two years later the same cross was repeated at Kew, the resulting trees being known as *P. generosa secunda*. The trees in eight years have grown to a height of 40ft., and it is interesting to record that of three trees which have flowered two are females and one male. There is no difference in their rapid rate of growth, an average of 5ft. for eight years being extremely good in the light sandy soil and atmosphere of Kew. The largest of the leaves measure 13ins. by 11ins.

P. serotina, the Black Italian Poplar, said to be a hybrid between *P. nigra* and *P. monilifera*, is of Continental origin. It is a male tree, and has been very much planted, no doubt because of its free and rapid growth. *P. marilandica* is reputed to be the same parentage but a female tree, as also is a similar hybrid *P. regenerata*,

FAST-GROWING TREES

I.—THE POPLAR

The desire among planters of trees to-day, much more than formerly, is for an immediate effect, or at least in a very short time.

FOR many positions and purposes the Poplars are unrivalled for the following reasons: They are quick-growing and transplant readily when a good size; few, if any, trees thrive better in a variety of soils, positions and climatic conditions in town and country; and they are only rivalled by the Willow in the rapidity and ease with which they may be propagated by cuttings inserted in the open ground.

The cutting up of large estates and the building of smaller houses in suburban and country districts has resulted in a very large demand for quick-growing trees. This may be for one or other object or a combination of several reasons. Fast-growing trees may be required quickly to furnish the pleasure grounds and set off in at least some slight degree the new character of the house. Perhaps more often than not the desire is to screen the house from the road, or quickly to form a barrier to shut out other buildings which overlook or may be an eyesore from the new house.

When there is ample space and abundance of head-room the tall, wide-spreading Poplars may justly claim attention. In cramped positions, with little or no space for overhanging branches, the Lombardy Poplar is usually the most satisfactory. In smoky districts and indifferent soils Poplars can generally be depended upon to give good results.

PROPAGATION.

Poplars and their close allies the Willows are the easiest of all tall-growing trees to increase by cuttings. The normal growth of a Poplar cutting 1ft. long inserted during October or November would be 4ft. to 6ft. the first year in the open ground. If need be Poplar poles 8ft., 10ft., or 12ft. in length with a diameter base of 3ins. or more may be used, placing these in the permanent positions. I can call to mind two instances of Poplar poles being used for pillar Roses which have to-day become a couple of tall Poplar trees. Though Poplars can be quickly raised from seeds, for several reasons, besides the ease with which cuttings root, it is not much practised. To begin with, Poplar trees are usually unisexual, hence more often than not when a mixed collection of Poplars are grown the seedlings prove to be hybrids. This is undoubtedly the reason for so many hybrid Poplars in our gardens to-day. The germinating power of Poplar seeds is both rapid and fleeting. Marked evidence of germination can often be seen within twenty-four hours of gathering and sowing the seeds. On the other hand, Poplar seeds quickly lose their vitality. Several seedling trees of *Populus generosa* (*secunda*) raised in 1914, eight years ago, are now 40ft. in height.

The idea of this note is to review the Poplar for ornamental planting rather than their economical or commercial value. In passing, however,



POPLARS EFFECTIVELY PLANTED BY THE WATERSIDE.

it may be useful to point out the value of quick-growing Poplar as a timber tree. Though a soft wood, there is a ready demand for the wood to-day for such things as packing cases, cotton reels, toys, etc.

Populus trichocarpa, the Black Cottonwood of Western North America, is the fastest growing of the Balsam Poplars and quite one of the most ornamental. A tree planted by the riverside at Kew about twenty years ago now exceeds 60ft. in height. Native trees are sometimes said to reach 200ft. in height. The natural growth of young trees at least, is upright, making a very good screen tree, though it is not advisable to plant as closely as is done with the Lombardy.

P. robusta is a fast-growing hybrid Poplar obtained by crossing *P. angulata* var. *cordata* with *P. Eugenei*. In France some authorities

which originated in Belgium. A frequent nursery name for this group of hybrids is Canadian Poplars.

P. Eugenei is a male hybrid tree which appeared as a chance seedling in the nursery of Messrs. Simon Louis near Metz about ninety years ago. The original tree is 150ft. high. Several trees planted at Kew in 1888 are approaching 100ft. in height. It is said to be a seedling from one of the female Canadian Poplars crossed with pollen from a male Lombardy, hence the strikingly tall pyramidal habit.

The Black Lombardy, *P. nigra* var. *italica* (syn. *pyramidalis*) and the White Lombardy, *P. alba* var. *pyramidalis* (syn. *Bolleana*), are the best trees for close planting to form an effective screen or hedge 20ft., 25ft. or more in height. The distance apart varies according to circumstances. For a close hedge, and to be almost

immediately effective, plant 5ft. apart. As a permanent tall screen 10ft. apart is a good distance; while if space permits of a second row, plant these 8ft. or 10ft. behind the first row, setting the trees alternately between. Being very twiggy trees, they will in a very few years form a most effective screen, even in winter after the leaves have fallen. For town and suburban gardens in particular,

where space is valuable, the Lombardy Poplars are frequently planted, the white (Bolleana) being of the two the more ornamental. Having no overhanging branches the trees give only a minimum of shade. When immediately behind a flower border, trenching the ground within a reasonable distance of the trees every few years does little, if any, harm. A. O.

ON TULIP CULTIVATION IN THE OPEN

IN the year 1907 an excellent book on Daffodils was published by Doubleday, Page and Co. of New York. Its author was Mr. A. M. Kirby, who had, it is very evident from the contents, a wide experience of everything connected with the flower. On page 9 he refers to the small Syndicate of Six which was formed to buy Mr. Engleheart's earliest seedlings. I quote this as an example of his thoroughness and his intimate knowledge of what he was writing about. Hence we feel that the heading of Chapter VIII states a simple fact, "The One Insect and One Disease." The disease was "basal rot" and the insect the daffodil fly "*Merodon equestris*." Nineteen hundred and seven from nineteen hundred and twenty-two leaves fifteen.

Only fifteen years ago, then, that was the happy position in Daffodil land. How different now! When man upsets the balance of Nature he is providing himself, more often than not, with a very big job to put matters right again. The gathering together of plants in a garden is such an upsetting. The interbreeding that creates new varieties is an upsetting. Man is not out of the wood yet in the case of the Daffodil.

Now that the Tulip is increasing year by year in public favour we must not forget that its life under garden conditions in the West is an upsetting of stern Nature. Let us remember the Daffodil and all that has come to pass since the fateful sweltering summer of 1911. We were blind. We did not discern the symptoms of coming trouble, with the melancholy result that there is hardly one garden of any size where that scourge, the *Tylenchus devastatrix* or eelworm, is not. Let us try to be wiser in our cultivation of the Tulip. Once bitten, twice shy. I feel that this article will be well worth writing if only it helps to put lovers of this flower on their guard; if only it makes cultivators keep their eyes open so that they will see when anything is going wrong; if only it prompts them to deal instantly and adequately with the evil. The chief enemy of the Tulip is an insidious fungus known to the learned as *Betrytis parasitica* but colloquially as "fire."

The time when it begins to be very noticeable is about that of flowering. Grey or brown patches are to be seen on the foliage, and the blooms are



TULIPS IN THE PAVED GARDEN.

frequently disfigured as well. Mild attacks do little harm, but when they are severe the bulbs suffer and rot. Most probably many readers have at one time or another been troubled with this "fire." Much can be done at planting-time to avoid it, or at least to minimise it. First, no Tulips should be planted in the same beds or parts of borders where last year it appeared in a virulent form. Secondly, no Tulips should ever be put where they will be exposed to cutting cold winds. If these do not actually originate an attack of "fire," they decidedly aid and abet it. Thirdly, low-lying ground which is subject to spring frosts should if possible be avoided. Fourthly, I am rather inclined to think that in light soil Tulips are more subject to it than in heavier land. Fifthly, late planting helps. Even if it does not do much in this direction, by delaying the appearance of the young foliage above ground it lessens the time that slugs have for feeding on it. Several

times I have noticed how the leaves of early-flowering varieties have been badly eaten when within 4ft. the late-flowering ones have been untouched.

The ideal ground for Tulips is land just on the stiff side, from which a crop of Potatoes has been lifted. We do not have Potato patches on our lawns or in our best flower borders, so all that can be done is to remember the ideal and to make the ground as much like it as one can. Lime is beneficial, it follows that care should be taken to see that there is no deficiency in the soil.

There seems to be a quite unnecessary amount of tribulation about the depth at which Tulip bulbs should be planted. Editors put it down as one of the most necessary ingredients in an article on cultivation. "You know," they tell me, "what to say, how deep to plant and all that sort of thing." Friends continually ask, "Now how deep must we plant the bulbs?" Really Tulips are not very particular. It matters very little if there are 3ins., 4ins., 5ins. or 6ins. of soil over the top of the bulbs. Only last autumn in my garden, as an experiment, some were put in at a depth of 6ins. and some at 9ins., and I could not see any difference between them when they bloomed. What does make a difference is the way the bulbs are treated before they are planted. It is not generally known that by keeping bulbs in a temperature of about 65° to 70° for two or three weeks before they are planted that their flowering is considerably delayed. I saw several large beds of the Rev. H. Ewbank and three or four other varieties the last time I was in Haarlem in Mr. Polman Mooy's ancient Tulip ground at the back of his house in Kleine Hontweg, some of which had been warmed up and some not. The contrast was striking. In each case the treated ones were just expanding and the non-treated ones were going out of flower. It is almost unnecessary to say that this fact may be of considerable use in some gardens. I am sorry I cannot give exact figures of the necessary temperature and the length of time that the bulbs should be in it, but the principle is all right. The origin of the saying that a cat has nine lives is lost in the mists of hoary antiquity. Bedding-out has at least the same number, for it still goes on in many gardens—only priest is writ presbyter. Because of this neo-bedding, late-flowering Tulips are not used as much as they might be for making a big show in the month of May or, in very late parts of our island, in early June. They are in the way when the beds should be filled with their summer occupants. Now it is very easy to circumvent this little difficulty. M. Vianney, the famous priest of Ars, was once asked by a lady who had been in a serious carriage accident what she should do to avoid another. "Madame," said the holy man, "the way is simple. Never ride in a carriage." The difficulty of the late-flowering Tulips might be easily avoided in a similar way by never using any; but this would be something akin to cutting off one's nose to spite one's face. It is wholly unnecessary. If the Tulips are carefully lifted without damaging either the roots or the foliage as soon as they are out of flower and there and then put in an out of the way place by their heels and watered well to settle the soil, they will then ripen off very respectably and will give quite decent flowers the next year.

In writing as I am doing about cultivation I feel as if I were making a fruit salad—so much goes in. I have another ingredient to add. Those who lifted Tulip bulbs this summer will have found in many cases that they have got a whole lot of small bulbs. The hot season of 1921 seems to have made the bulbs split up this summer as they have never done before. I had a long, narrow bed of the early Rose Tendre containing

about 700 to 800 bulbs. I have no end of small bulbs, but I am very doubtful if I will find fifty first-sized in the whole lot. What ought to be done with these? They should be planted at once. The smaller the bulb the sooner it should be put into Mother Earth is a very safe rule to go by. Any bulbs about hazel nut size should be in by the end of September. Smaller ones still, in August; whereas large ones need not be planted until November. It seems to surprise a good many people that small bulbs can be grown into big ones when they are told what I have just written. I suppose they have never stopped to think where or how dealers get the big ones.

"Thank goodness," say the dealers, "even if people do know it, we have generally a good friend at court—Mr. Want-of-Room."

I must bring one more ingredient into the salad—droppers. What are droppers? They are hard-coated little beggars that one finds a good bit lower down in the soil than we would naturally expect them to be when we take up our bulbs. Whence come they? As a rule they are produced by the small offsets of less than hazel nut size. Why the new bulb should come into being in this fashion and not be formed beside the parent bulb is one of the unsolved problems of tuliplom.

As a general rule the smaller the bulb planted the greater the number of droppers. Naturally, they are a bit of a worry at lifting time if we want to get the bed up "clean." Droppers look different to ordinary bulbs. They have a hard skin and a long elongated shape. When they are set they become normal before they are lifted. Those who can read German should get "Das Leben der Tulpe," by Edmund Döring, published in 1910, if they want to learn more about them and also how new bulbs are formed in the ground. Not everyone knows that you say good-bye for ever to a bulb when you plant it. Truly the tulip is *La Fleur Merveilleuse*. JOSEPH JACOB.

THE EVOLUTION OF THE GLADIOLUS—III

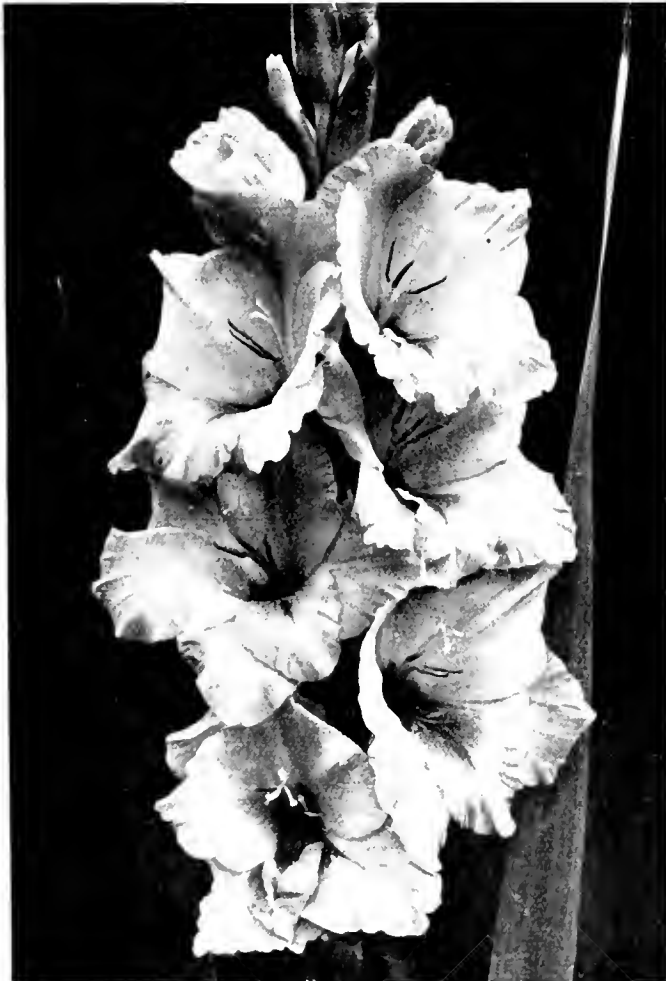
The Large-flowered Hybrids.

A YEAR or two ago a serious thought assailed me of scrapping all the large-flowered Gladioli so as to devote concentrated attention to the primulinus hybrids. Then came intimate knowledge of some of the fine new varieties raised in America, and my resolution went the way of those reborn on December 31 of each year of grace.

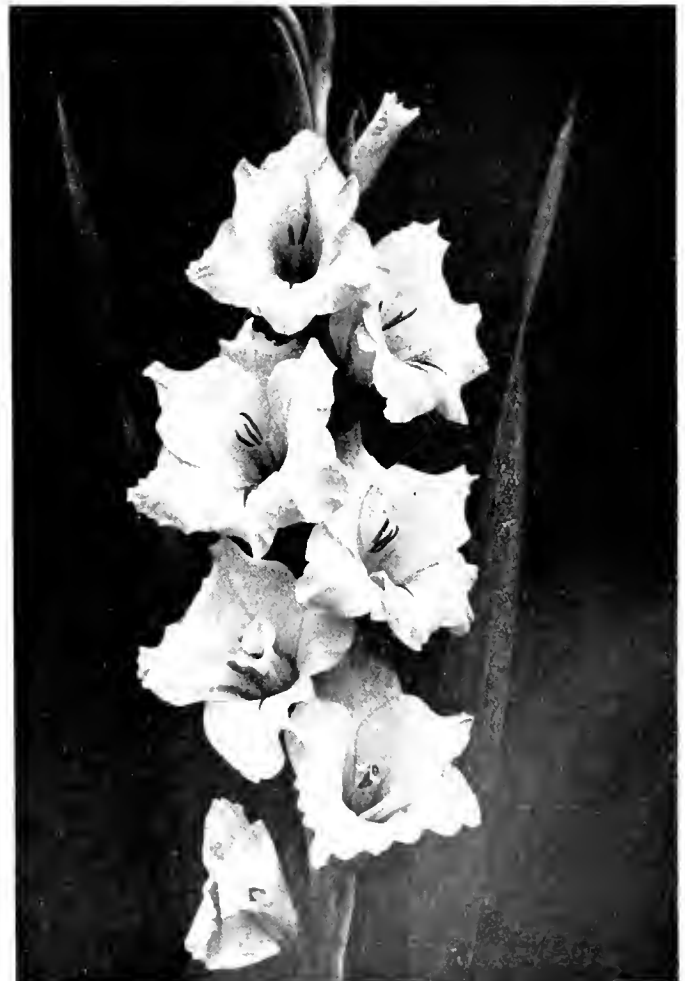
I think Byron L. Smith and Alton were the founders of this personal renaissance. When first I saw these two flowers I recognised that the large-flowered hybrids had an important mission to fulfil, and also there was the immediate

suggestion of unbounded possibilities of a union between the popular primulinus hybrids and the glorious colour blends of this new race of giant-flowered Gladioli. Of Byron L. Smith I have written before in these pages, and now that the public have had repeated opportunities of seeing it their appreciation has been immediate and conclusive. It has bounded into supreme favour and cannot fail to retain its place for a long time to come. This summer I have listened to many opinions and guesses as to its real colour, but probably the truest value in words is "softest cattleya mauve." But so soft is the shade that

lavender pink might also aptly figure it in the mind if you know the flower. If you do not, no jargon of words will give you its portrait. On the lower segments there is a milky yellow blotch suggestive of moonlight which tones out the petal colour to perfection. Alton is a fine type of the ruffled-flowered Gladiolus. The large circular flowers are rather compactly held on the massive spike, but the colour is soul-satisfying. Described in the catalogue as of finest orange colour, my notes say salmon orange with an intense fiery orange scarlet blotch in the throat, a good blend of warm tones. After the same style is Favourite, of which we have



GLADIOLUS FAVOURITE



GLADIOLUS RARITY.

a picture here; more a self-coloured flower perhaps, and if there is any meaning in a shuffling of the descriptive words, I should call it more orange salmon where the other is salmon orange. The emphasis, I take it, rests with the second word. Some more crinkled ones are Charm, a pure deep rose pink with a deeper, almost red blotch; Glorious, a deep cream with apricot throat; Gypsy Queen, of lovely orange red with just a trace of bluish lavender colour in the edges. I like this variety very much for the purity and intensity of its colour. Major Churcher shewed it well at the International Show in Glasgow in a competitive class where the judging was a bit awry. Humming Bird is somewhat dwarf in growth but with a stiffly held strong spike. The flowers are not so pretty as in some, but it is pleasantly peculiar, a sort of lavender sheen overlying a rather harsh pink shade. The lower segments are almost covered with a deeper and harmonising blotch. Æolian is very handsome, having plenty of flowers open at once and the colour very telling, pure salmon rose with distinct bluish margin. Adoration is practically a self of dark Lincoln red deepening in the throat, and has about six flowers open at a time. Then there is Crinkles, intensely ruffled and of pleasing peach blossom pink, but the flowers are not very large. It is fine for vase decoration, however. E. J. Shaylor is particularly good, and is better known in this country than most of these ruffled sorts. Two years ago it gained the A.M. at Vincent Square and at that time attracted much notice. It is a deep rose pink, forming a bold spike and is a good grower. I do not like purple-coloured Gladioli as a rule, but Purple Glory is a thing apart, perhaps because it is not purple. Anyway it arrests the attention at once with its giant ruffled flowers and enormous spike. The colour is elusive of description, but I imagine it to be an intense violet maroon with great, almost black, blotches. It is a pity it takes 12s. 6d. to purchase a bulb of this one, for it is a powerful help to the exhibitor and cannot but capture the judge's eye.

Some of the plain-petalled Gladioli from America are even more astounding in colour than the ruffled sorts. Among the novelties introduced this year John J. Pirrie is quite remarkable as an entirely fresh break. The flowers are beautifully formed and of the most extraordinary slaty mauve colour adorned with a rich crimson blotch. No other Gladiolus within my ken has a complexion anything near this. Marshal Foch, not to be confounded with Hopman's Dutch variety of the same name, is another 1922 novelty and a decided acquisition. Its giant flowers are brilliant salmon pink of a very fresh shade and many flowers are open at a time, making it valuable for exhibition. Red Fire (A.M., 1922) is the best red Gladiolus of any so far as my experience goes. It has a depth of colour and "fire" seldom seen in a flower, and when more reasonable in price will be in great demand. Several of the 1921 introductions from the U.S.A. have proved very good in our gardens, notably Hollyhock, a remarkably round flower, tinted white with large crimson blotch and so arranged on the spike that it closely resembles the flower it is called after.

Red Copper is a fancy Gladiolus of peculiar colour—dark salmon flaked blush old rose, the lower petals being red and yellow with bluish lines running through. Rarity, of which a good illustration is given, is quite unique, and should become a popular variety. The petals are waxy in substance and smoothness, and of a very delicate pale lavender pink. This is a grand flower of high quality. Tranquil does not seem very happily named, the colour being blood red with a taint white lining at the edges of each petal. The last two might well have

changed names. Rarity would have made a splendid Tranquil, but the latter is too sanguine to be placid.

The yellow Gladiolus seems to take a lot of procuring. There is Kelway's Golden Measure introduced a dozen or more years ago, still listed at the absurd price of 42s. a bulb, a figure I should have grudged for it as a first year novelty. From America comes a new one called Gold and in point of colour it is an improvement on Golden Measure, though not so good a grower. Mr. Herbert Robinson of Huckleley, Leicestershire, has been good enough to send me a new yellow self of his own raising, and this promises to become an extremely useful variety if its constitution proves as good as reported. It is only in the seedling stage yet, having bloomed for the first time last year, but the appearance of the spike certainly indicates vigour and good style of growth, while the colour of the flower itself leaves little to be desired.

Each year I admire the beautiful contrast of colour in Incontestable. I first saw it as shewn by Major Churcher at Vincent Square, and immediately procured it. The large, round, white flowers are perfectly pure except for a big crimson blotch on the two lower segments, sharply defined, no feathering of one colour into the other. Kelway's Painted Lady is very similar, and both are conspicuously beautiful. I should guess that the progenitors of these two varieties were highly coloured for practically every seedling from them is full of colour, scarlet, crimson and deep pink predominating, but all shew something of the wonderful blotch of the parents. We have some extremely beautiful new sorts emanating from this blood. Two moderately priced red ones which ought to be in every collection are Black Pansy, a very dark red with almost black lower segments, and Fire Ribbon, of intense fiery red. The special feature of the latter is that by the time the first flower is open the colour is shewing on the topmost bud, so that the spike resembles a perfect band of glowing colour. Challenger, a very popular Gladiolus in our exhibits this summer, is also, fortunately, not too expensive. It has a huge flower of richest velvety red, practically self, and is a strong-growing plant. The best white for the moderate purse is Lily White, a very pure lily-petalled flower with about six blooms expanded at once on a graceful spike.

One of the strangest of the "fancy" group is Loddia, very fascinating to the lover of the *outré* in flowers. The ground colour is a smoky old rose, and it is overlaid with flakes of smoky blue. Try it on the dinner-table with double Gypsophila or fine Asparagus foliage and your guests will ask you what you mean by it!

Then Romance, that beautiful smooth glowing orange salmon flower with a picotee edge of blue, wonderful under artificial light, and the great Mary Pickford of pastel cream and sulphur yellow, wanted by everyone who sees it, and Scarlet Princeps for a bold group in the border where rich scarlet is wanted, and Villa, the little dark, almost black, Gladiolus. One could go on describing favourites all the time, and the halt has not been told. There is wealth enough in the colours of the modern Gladiolus to enrich the most reckless spendthrift. It is a wealth which, luckily, one cannot amass, but it comes with such prodigality for months in each year—from early May till late November we have them in flower—that it almost seems like a rest to have nothing but the imagination to draw on for inspiration.

To those who cannot afford to form an extensive collection of expensive varieties I would urge again the possibility and the desirability of growing from seed. We have so many exquisite seedlings

here that I dare hardly mention them lest I be suspected of romancing, but in due time they will see the light of criticism and speak for themselves. If you imagine seedling raising to be a slow process think of this. Many of THE GARDEN'S readers grow Border Carnations and other plants whose seeds are sown one year and the flowers enjoyed the following. Well, Gladiolus seed sown in the spring will give you some flowers the same summer and practically all the plants should bloom in the succeeding season. You cannot have results much sooner than that unless you go in for annuals only. Here we get seedlings throwing spikes of twelve, thirteen and fifteen flowers seven months from seed.

J. L. GIBSON.

A MORNING STROLL

I SUPPOSE there never was such a season for late Roses as the present. The blooms have been magnificent and the colour as near perfection as possible. Recently, we have had a few days genial warmth and Nature responds very quickly. To-day, after a foggy morning and a heavy dew, I have been struck with the beauty of various conifers, particularly those with glaucous foliage. Perhaps the most noticeable are *Cedrus atlantica glauca*, *Picea pungens glauca* and *Picea Engelmanni glauca*, the latter being a comparatively rare tree even in good collections. *Abies arizonica*, a variety of *A. lasiocarpa*, is a wonderful colour, shining like silver in the sun.

I was struck with the great beauty of *A. Webbiana*, the long deep coloured leaves of which are of a vivid electric-blue tint beneath. This characteristic is very noticeable in many of the *Piceas* and as the trees grow to some size, sufficient to expose the under part of the leaf, is one of the greatest attractions. I notice a considerable burden of cones on the conifers this year, due no doubt to weather conditions last summer, when there was maturity of a kind seldom seen in this country.

The Yews are fruiting very well and to-day I noted specially the yellow-berried Yew, *Taxus baccata fructu-luteo*, which, with *Taxus Dovastoni* alongside made a very charming combination. Some of the *Junipers* were also very attractive and particularly *Juniperus virginiana glauca*, a very beautiful form of the Red Cedar. *J. Tamariscifolia* and *J. communis* var. *hibernica* were both tinted with a lovely sheen of glaucous tint, while opposite habits of growth formed a wonderful contrast. What a beautiful family is the *Juniper* with all its varieties both upright and recumbent! They have the added merit of growing well on limy soils and are, perhaps, the best conifers for such soils. They are not, however, confined to the lime and in fact with few exceptions seem to thrive almost anywhere. A very beautiful form of *J. Sabina* is var. *horizontalis*, and this seems to thrive specially well on soils lacking in lime.

Another point forced itself upon me in my stroll to-day. The wet weather and conditions generally have produced luxuriant growth on almost all conifers, and I could not help but contrast their present richness of colour and luxuriance of growth with the half starved condition of last summer, and some that were only able to grow inches last year have produced almost as many feet this time. There may be some trouble and disappointment as the colder weather comes on, as many plants will go into the winter in very soft condition. One prays for a touch of real Indian summer which would do a lot towards hardening up the sappy growth, which is the natural consequence upon the moist conditions of the last few weeks.

F. GOMER WATERER.

THE GREAT AUTUMN SHOW

THE new departure of the Royal Horticultural Society in holding a great combined Show early in October was a conspicuous success. As most of our readers are well aware, the custom for some time past has been to hold a Summer Show in the beautiful grounds at Holland Park. This admirably situated ground is no longer available and, in any case, it has long been felt by members of the trade that the Holland Park Show followed too closely upon the Chelsea Show. In their wisdom the Council of the R.H.S. decided to try the experiment of discarding the early summer show and of holding a large representative exhibition which would include the annual competitions for British-grown fruit and vegetables. After a prolonged search the Holland Park Rink Hall was decided upon as the best venue for this new departure. The Show opened on October 3 and closed on October 6. The floor area of this hall is approximately four times that of the Vincent Square building, and there is also a convenient gallery. Large as was this space, it was taxed to the utmost.

Previously to the opening of the Show there was no question as to the quantity and quality of the exhibition, which was all that could be desired. The only question which concerned the Council was that of attendance, but any fears entertained were soon dissipated, for a long queue of visitors awaited the opening hour and the large hall was soon filled almost to overflowing; in fact, for a couple of hours or so it was uncomfortably filled.

When viewed from the near gallery the general appearance of the exhibits was especially good, the bright colour was very fascinating. The principal exhibits were magnificent collections of fruit and vegetables, trees and shrubs in their full autumn beauty of foliage and berries, Roses, Carnations, Dahlias and Michaelmas Daisies.

ROSES.

Seldom, if ever, have Roses been shewn in such quantities and great beauty during October as on the present occasion. Not only were the blooms fresh and very good, but there was a marked absence of mildew on the foliage. Mr. Elisha J. Hicks was particularly successful in his method of arrangement. In the arches of such varieties as Mrs. Henry Stevens, Mme. Butterfly, Climbing Lady Hillingdon and Ophelia, the blooms stopped at just the right place and gave way to the foliage and berries. In his large stands Mr. Hicks displayed such highly decorative sorts as Isobel, Covent Garden, Padre, Mrs. Elisha Hicks and

Mrs. C. Lamplough. The large vase of the brilliant hips of *Rosa Fargesii* found many admirers.

Roses of recent introduction were fairly plentiful and amply illustrated their autumn value. In the exhibit by Messrs. Alex. Dickson and Sons there were generous masses of Lady Inchiquin and Betty Uprichard, almost, if not quite, as beautiful as at Regents Park in the height of the Rose season. Lulu, Sunstar and Earl Haig were also very handsome. The Hybrid Musk Nur Mahal, which received a certificate at the Autumn Rose Show, was again shewn in great quantity by the Rev. J. H. Pemberton and was here equally as

Plymouth, Mrs. Henry Stevens and Alex. Hill Gray are the names of only a few so well-shewn. *Souvenir de Claudius Pernet* has been shewn in great beauty on several occasions this year and at the Holland Hall was staged by Messrs. Jarnan and Co. and Mr. George Prince. *Niphetos* has become almost a scarce variety of late years, so its appearance in the collection by Mr. John Mittock was particularly welcome and, while losing none of their pale beauty, the blooms had the robust appearance of having been grown out of doors. Mr. Mittock also shewed the richly coloured, fragrant *Walter C. Clarke* with *Hadley*, *La Tosca*, *Ophelia* and other sorts. *Hoosier Beauty* and *Hadley* were in good form as shewn by Messrs. Stuart Low and Co., while Messrs. Dobbie and Co. included *Col. Oswald Fitzgerald*, *Lieut. Chauré* and *Christine* in their good collection.

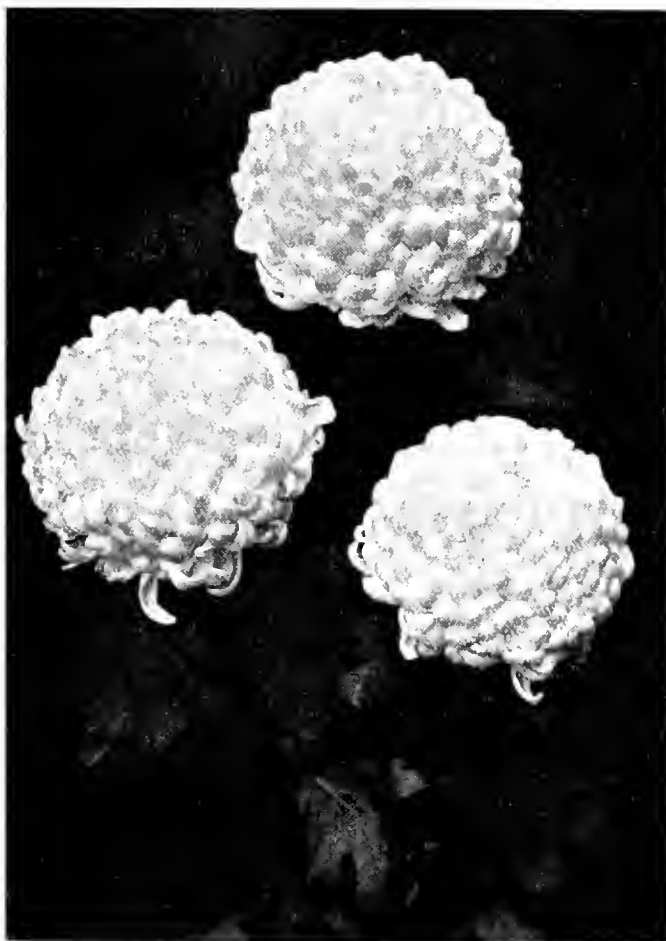
CHRYSANTHEMUMS.

For the most part it was the outdoor varieties that were shewn, though Mr. H. J. Jones in one of his characteristic groups displayed a great number of Japanese blooms of exhibition size. Several of these were unusually early. The largest were *Mona Davis* (a beautiful mauve), *Mrs. G. Lloyd Wigg* (yellow) and *Donatello* (a very bright incurving yellow). His decorative varieties included *October Glow* (rich chestnut), *Pink Delight*, *Pink Protusion* and *Uxbridge Pink*. Of all the small-flowered sorts none was brighter than *Verona*, of which Messrs. Wells and Co. had a large vase of the intense terra-cotta blooms. *Golden Polly*, the pure white *Sanctity*, *Knareborough Yellow*, *Harvester* (of chestnut colouring), *September Glow* and *September Gem* were all of great decorative value.

The massed colours of many outdoor varieties made a great show in the exhibit of Messrs. Keith Luxford and Co. They also had the vivid *Verona*, with *Early Buttercup*, *Lichfield Purple*, the *Pink Marie Masse Golden Polly*, *Uxbridge Pink* and *Framfield White* in delightful sprays. *Normandie*, which is such a valuable hardy variety, was very beautiful in a group arranged by Mr. W. Vandell, and he also shewed the white Mrs. Roots, *Cranfordia* (of fascinating bronzy yellow colouring), *Crimson Pride* (in intense colour), *Le Pactole*, *Horace Martin* and a valuable scarlet sport from *Almirante*.

DAHLIAS.

The gorgeous colours in the many groups of Dahlias were very welcome amid some of the more sombre exhibits. Of the many types on view it was the highly decorative small *Peony*-flowered that attracted most attention, and small wonder, for these are of very useful size—sufficiently large for decorative purposes and yet not so large as to flop about after having been cut a few days. The colours of the newer miniature *Peony*-flowered varieties are most entrancing. Besides the new varieties which have been described in these pages from time to time, Mr. J. T. West shewed *Oriole*, *Floss*, *The Quest*, *Sweetness*, *Winter Sun* and *Lovely* of this type. There



THE NEW EARLY-FLOWERING INCURVED CHRYSANTHEMUM
CISSBURY WHITE.

effective. *Ruth*, of fascinating golden-apricot shading, was a delightful foil to the fragrant crimson novelty. In the collection by Messrs. F. Cant and Co., their large pink Hybrid Tea variety, *Captain F. S. Harvey Cant*, was quite as good as when first shewn at Chelsea last May. The *Queen Alexandra Rose* has been most successful this year and was well shewn here and in the fine stand by Messrs. B. R. Cant and Sons, who also had *Golden Emblem*, *Ophelia* and *Lady Pirrie* in great beauty.

Climbing Mme. Edouard Herriot, which was included by Messrs. C. Prior and Sons in an interesting collection, will scarcely be as popular as the bush variety; it is not nearly so beautiful and is of poor form, but "*Golden Mail*," as Mr. Prince named a charming pale orange yellow sport will probably have a future. In this collection *Tea and Noisette* Roses were especially good. *Lady*

was also an admirable selection of them in an exhibit by Mr. J. B. Riding, who, by the way, is of the decided opinion that these beautiful flowers will be the most popular Dahlias of the near future. He included in a representative collection such sorts as Marcella, Ladybird, Judith, Cato, Gladys Urwin, Tendresse, Picture and Nora Bell, and they were all most charming examples of the type Yellow Pet and the new varieties were also very beautiful in a collection by Mr. Charles Turner, though one associates him more particularly with the dainty little Pompon varieties, of which he had perfect specimens in Mignon, Nerissa, Orpheus, Little Beeswing and many others. Such large Peony-flowered sorts as Liberty, Phidias, Coralie and Sunray provided glowing colours in this collection.

To Messrs. Cheal's exhibit one always turns for the artistic Star Dahlias, and on the present occasion they included Crimson, Autumn, Gattou, Mauve and Horley Stars. Their singles were of fascinating form and wonderful colouring. The old favourite Show and Fancy Dahlias of perfect form and really charming colouring were prominently shown by Messrs. W. Treseder, Limited. The principal varieties were Pandora, Nugget, Nansen and Hon. Mrs. Percy Wyndham.

Exhibition Cactus varieties were the most important in a large collection by Messrs. Carter Page and Co., and the outstanding sorts were Silverhill Park, Princess, Paragon, Border King and Pennant. The Decorative type was also good, particularly such dusky maroon varieties as King Harold, Pharao and Romney. Messrs. Dobbie and Co. have long specialised in the Collarette varieties, and displayed excellent blooms of Tiger, Clyde, Glencoe, Linnet and Onse-

TREES AND SHRUBS.

As one would expect in the autumn, berried trees and shrubs were extensively shown, though it must be confessed they did not make the gorgeous display of colour one would have anticipated. For the most part the lighting of the hall was responsible, but in several instances the wealth of available material was not displayed to the best advantage. This was particularly noticeable in the large circular group from the Hon. Vicary Gibbs, Aldenham Gardens. This had the place of honour in the centre of the hall, and while the individual items were mostly of great value, the arrangement was distinctly uninspiring. Flowering species were represented by branches of *Lepedeza Sieboldii*, *Spartium junceum*, *Spiraea sorbitolia* and the old favourite *Erythrina Crista-galli*. Glowing autumn colour was provided by *Acer japonicum laciniata*, while the most showy berried shrub was *Pyrus firma*. The pure white berries of *Pyrus Aucuparia munda subarabnoides* were very uncommon. Near the outside of this group there was a dwarf plant of *Vitis Brandt* bearing small, clean bunches of Grapes.

A very interesting collection of berried shrubs was arranged by Mr. Sidney Morris, Earlham Hall, and this included fruits and the immense yellow flowers of *Lonicera Hildebrandtii*. These were, of course, grown in a greenhouse, but all the rest were hardy. *Euonymus intermedia*, which may almost be termed an improved *E. europæus*, was particularly well fruited. *Hippophae rhamnoides*, *Cratægus* and *Berberis* in many varieties were well represented. *Berberis* (very well berried), *Cotoneaster Zabelli*, with various conifers and Maples were associated with bold-

habited herbaceous flowers and *Lilium* by Messrs. Wallace and Co.; while Messrs. J. Piper and Sons had *Eleagnus glabra* and other species in their mixed group.

The best arrangement of shrubs was that by Messrs. Hillier and Sons, and they made a group of conifers and another of mixed trees and shrubs very attractive. Many of the cones on such species as *Abies brachyphylla*, *A. arizonica*, *Picea bicolor* and its variety *reflexa*, *Pinus Ayacahuite* and *P. sinensis*. A graceful arrangement was made by Messrs. J. Cheal and Sons, and they displayed *Cratægus yunnanense*, *C. coccinea dentata*, *C. mollis* and *Pyrus discolor* among fruiting shrubs. A young plant of the Maidenhair Tree (*Ginkgo biloba*) was very striking in its rich golden autumn colour. Messrs. Cheal's flowering species included *Eucryphia cordifolia*, *Clerodendron foetidum* and *Buddleia compacta*. A good selection of *Ceanothus*, including *C.C. Ceres*, *Gloire de Versailles* and *floribunda* was displayed by Messrs. Waterer, Sons and Crisp, who also had attractive plants of *Taxus nova aurea*, *T. japonica* and several heavily fruited *Berberis*. The pairs of rounded pea-like fruits of *Descaisnea Fargesii* shown by Mr. G. Keuthe attracted a deal of attention, and he also had a good collection of dwarf shrubs suitable for planting in the rock garden.

Clematis were particularly handsome. Messrs. L. R. Russell, Limited, had great blocks of many varieties all in 5in. pots just as they are despatched. These were excellent plants bearing half a dozen or so beautiful flowers. The most striking varieties were *Lady Neville*, *Lord Neville*, *King Edward VII*, *Gipsy Queen*, *Lady Northcliffe*, *Marie Boisselot* and *Jackmani rubra* of the large-flowered sorts, while the smaller, very profuse



ASTER LITTLE BOY BLUE.



THE BEAUTIFUL MICHAELMAS DAISY BARR'S PINK.



JUDGED THE FINEST EXHIBIT AT THE SHOW, ARRANGED BY MESSRS. BUNYARD AND CO.

Viticella alba luxurians was also admirable. The smallest Clematis at the Show was *C. tangutica obtusiscula* in the collection of Messrs. G. Jackman and Sons, and its quaint, pendulous yellow flowers fascinated many visitors. In Crimson King Messrs. Jackman have a magnificent large-flowered variety. Messrs. Cutbush shewed a large collection of topiary work. The specimens were very well trained.

HARDY PLANTS.

Herbaceous plants formed a much more important part of this late season Show than one would expect. Signs of a wet summer were everywhere, for only in dripping Junes, Julys and Augusts do these herbaceous things keep on growing and flowering as we saw at Holland Park when October was already well established. To walk around and see such Antirrhinums as Chalk Hill Nurseries staged was like looking back to August. So, too, with Mr. Forbes' Pentstemons from far away Hawick, quite reminiscent of a July show we used to know of similar name and now lost to us. Naturally enough, autumn had to make its presence felt in the great array of Michaelmas Daisies and Asters of all descriptions. Speaking of these plants brings to mind the name of Mr. Ernest Ballard, who has done so much for the Aster family, and he had an excellent display of his wares staged on a large floor space. Some of his new Michaelmas Daisies are real acquisitions to the hardy plant border. Snowdrift, Queen of Colwall, Grey Lady, Purple Emperor and Little Boy Blue are particularly meritorious. The last named is dwarf, bushy and extremely floriferous, and is probably the nearest to a real gentian blue yet achieved. A seedling to be called October Dawn struck us as being a new one likely to become very popular. Its colour is mauvy lavender and the plant forms a perfect mass of blossom.

In Mr. Clarence Elliott's stand it was pleasing to see a fine pan of *Primula Juliana* in full flower among a host of Saxifrages and other rock plants, and *Gentiana sino-ornata* was also well flowered.

A prominent exhibit was a large display of seedling Scabious from Messrs. Isaac House and Son. There is quite a wide range of colour in these flowers now, and a lot of the new seedlings

are sensibly self-descriptive, such as Blue King, Mauve Queen, Silver Queen and even Violet Walters, where the Christian name hints the colour. Collarette, Harold and Nellie Dark were also good breaks. Mr. Wells, jun., of Merstham had a great variety of Asters relieved with the more highly coloured Kniphofias and late Oriental Poppies.

A neat little rock garden was put up by the Misses Hopkins, uncrowded, placid and restful to the eye. Quite works of art were the large floor space exhibits of Mr. Amos Perry and Mr. G. Reuthe. The former used Hollyhocks as a centre-piece surrounded by lavish displays of Oriental Poppies, Asters in every imaginable kind and Tritomas. Mr. Reuthe gave additional colour to his collection with a varied selection of Lilies, such as auratum, Henryi and superbum.

Excellent samples of Lupinus, Kniphofias, Delphiniums and Scabious came from Mr. Thomas Carlile of Twyford, and Pentstemons were at their best as staged by Messrs. Cutbush and Son.

Messrs. Rich and Co. of Bath had a really attractive lot of herbaceous plants, very bright being Gaillardia Sunshine and the Helenium Riverton Gem and Riverton Beauty, the former coppery red and the latter lemon with dark eye.

Meritorious exhibits of general herbaceous plants were staged by Messrs. Bakers of Wolverhampton, Messrs. Harkness of Bedale and Messrs. Gibson of Leeming Bar. Perennial Lobelias designated hardy came from Messrs. B. Ladhams, Limited, Southampton, whose hybrids are gradually extending the colour list among these flowers. Mrs. Humbert (salmon rose), Rose Queen, B. Ladhams (crimson), Shirley Beauty (intense fiery crimson), Delight (lavender purple) and Purple King are good examples. A pretty group of dwarf Delphiniums styled No. 1 Sky Blue shewn as a bedder, only some 12ins. high, was staged by Mr. Herbert Vigers of Dartford. Quite a neat feature of the Show was a pretty little formal rock garden exquisitely designed and shewn by Mr. Ernest Dixon of Putney.

The only exhibit of Gladioli was of the excellent seedlings that Messrs. Lowe and Gibson specialise in. These are as yet unnamed, but they include so many of great merit that we anticipate seeing them again next season.

A very uncommon and welcome exhibit was the large quantity of *Lilium auratum* stems sent by Mrs. C. Lemon from Brodrick, Arran, N.B. This generous collection was evidently from bulbs grown in the open air, but there was a great number of large flowers which diffused a most delightful fragrance.

CARNATIONS.

The style of arrangement adopted by Messrs. Allwood Brothers was particularly effective, and served to display to the full the beauties of a very large collection of perpetual-flowering Carnations as well as their free-flowering Allwoodii varieties. Of the latter the bowls and hanging baskets of such as Marion, Joyce, Vera and Betty were delightful. Among the Carnations proper Wivelsfield Apricot (in a jar of dull apricot colour), Wivelsfield Claret, Edward Allwood of intense scarlet colour, the fragrant old rose Mary Allwood and Nikko were perhaps the very best. Pink Carnations were very prominently displayed by Mr. C. Engelmann in his extensive collection, and these included Laddie, Bona, Cupid and the paler Delice. Snowstorm is a very good white, while dazzling colour is provided by Tarzan. Their large White Pearl was a central feature in the group of Carnations arranged by Messrs. Stuart Low and Co., and they also displayed Eileen Low, Reginald Cory and the Rose Pink Enchantress. Many useful sorts, including May Day and Mrs. C. F. Raphael, were shewn by the Preston Hall Nurseries.

ORCHIDS.

While the Orchids are flowers of many seasons, there was ample evidence at Holland Park that their period of perfection was again drawing near. Looking at the gorgeous richness of colouring attained in the modern forms of Cattleyas alone, it is difficult to realise how far the British climate is from the ideal for these plants.

Messrs. Charlesworth of Hayward's Heath included some new varieties in their collection as, for instance, *Oncidioida Medena*, a cross between *Oncidium cheiropherum* and *Cochlidia Noetzhiana*. This has a long spray of small coppery

red flowers shaded heliotrope. *Cattleya Desdemona* gained an award of merit and looked very handsome with its rich mauve petals, old gold throat and deep purple lip. A new *Brasso-Laelio-Cattleya Golden Crown* was awarded a first-class certificate, and had petals and sepals of rich Indian yellow with reddish purple lip and beautifully veined throat. *Roslyn*, a novelty among *Miltonias*, was of blackish chocolate colour tipped greenish yellow, the lower portion of the lip being pure white. This, too, had an award of merit. Many other forms were shewn in the group, which secured a gold medal.

From St. Albans Messrs. Sander brought an interesting *Laelio-Cattleya Gareloch* var. *Vivid*. The petals and sepals are pure mauve, and the labellum of deep reddish purple and rich velvety texture. Here, too, was *Brasso-Cattleya Maroniris* of exquisite soft mauve and the pretty blue *Vanda corulea*. A silver cup for this exhibit.

Sir Jeremiah Coleman, Bart., shewed a well balanced lot of various forms.

Messrs. Flory and Black of Slough shewed *Brasso-Cattleya Olympus* and another called *Viscount Toda*, for which they got an A.M. The latter is a handsome Orchid of soft reddish mauve and rich purple with a wonderful golden throat.

From the North Messrs. Mansell and Hatcher brought some outstanding flowers, notably *Brasso-Cattleya Heatherwood* of soft mauve and nicely veined throat of golden yellow; *Sophro-Laelio-Cattleya Vivid* of peculiar colour blend in which copper, red and purple all play a part. We liked *Cattleya Eleanor* with an exceedingly dark and lustrous lip, a really beautiful flower.

Messrs. Stuart Low and Co. had a very pretty *Laelio-Cattleya* christened *Mrs. Medo*. The petals and sepals are of bright Indian yellow toning down to a brownish yellow margin, the lip being purple red veined with gold.

A very handsome and tastefully constructed floor display by Messrs. J. Cypher and Sons of Cheltenham attracted a good deal of attention. Many beautiful Orchids were cunningly arranged with a background of foliage plants, including highly coloured *Crotons* and the graceful *Jacaranda mimosaefolia*. The quaint butterfly Orchid *Oncidium Papilio major* was here with many others of all classes. One noticed a particularly fine spike of *Cattleya Peetersii alba*, *Odontoglossum Grande*, *Cattleya Elenore* and *Oncidium oblongatum* all very well grown and flowered.

FRUIT.

As was to be expected fruit formed an important item on the menu at Holland Park. Many of the well known fruit growers put up quite sumptuous arrays of tempting ware and it was pleasant to note that much artistry was employed in this form of staging. Messrs. Bunyard's exhibit was not only a great display of fruit, but it was most tastefully put before the visitors, one might almost say beautifully. There is no need to employ the platitude that the produce was well grown; it was indeed passing well grown, but the way in which the highly coloured Apples were utilised with an eye to decoration was a revelation to many people. Baskets, arranged pendant-wise, of Ben's Red, Worcester Pearmain and Lady Sudeley Apples formed a conspicuous centre of almost gaudy colour, cooled off with cunningly entwined foliage of berried *Berberis*. Marshalled around these were generous samples of all the leading varieties of Apples and Pears, notably Grenadier, Lord Derby, Emperor Alexander, Warner's King and the Rev. W. Wilks among the former, and *Marguerite Marillat*, *Buerre Superin*, *Louise Bonne of Jersey*, *Doyenne du Commerce*, *Roosevelt*, *Catillac* and *Double de Guerre* among the latter. This

exhibit gained the Coronation Cup for the best stand in the Show and the special congratulations of the Council of the R.H.S. Opposite was Messrs. Laxton's of Bedford, another exhibit much enhanced by the art of decoration. From this firm one looks for new varieties of hardy fruits, and of these the following were shewn in excellent condition:— Apples: *Lord Lambourne*, a cross between Worcester Pearmain and Jas. Grieve. This is a heavy cropping variety of delightful flavour, in season during October and November. Medium size and well coloured. Laxton's Pearmain and Laxton's Superb have both gained R.H.S. awards. The latter is the freer cropper of the two, a cross between Wyken Pippin and Cox's Orange, and makes free healthy growth. Its flavour is bequeathed from Cox's Orange Pippin, which it much resembles also in outward guise, but its great value over that well known King of Apples is its long season, which extends to March. Laxton's Peerless is a cooking Apple of exceptional quality, in season from October to Christmas. A new Pear, *Buerre Bedford*, a seedling from Marie Louise \times *Durondeau* shewed distinct characteristics of both

Wilks and The Houblon, which were very well shewn. Messrs. Daniel Bros. of Norwich and Messrs. Prior of Colchester were also to the fore with heavily laden dishes of finely grown Apples and Pears.

A new Apple called *Pantia Ralli* was exhibited by Mr. Will Tayler of Godalming and is said to be a very prolific bearer and of good flavour. Mr. Jas. A. Nix of Tilgate, Crawley, carried off the Gordon-Lennox Cup for the best collection of fruit shewn by an amateur and his collection of Apples, Pears, Peaches, Nectarines, Melons, Dessert Plums and Filberts also won him a large silver cup from the R.H.S.

In the competitive classes the chief prize winners were Mr. J. H. Loudon of Wye, Kent, Lord Bessborough, Sir Hy. Webb, Bart., Captain Drummond, Mr. F. C. Stoop and Rev. C. G. Keau.

VEGETABLES.

Never before, do we think, have the R.H.S. had such a magnificent and comprehensive exhibit of vegetables as that arranged by Messrs. Sutton



PART OF MESSRS. SUTTON'S MAGNIFICENT VEGETABLE EXHIBIT.

parents and its melting flesh is well flavoured. This is an October fruit.

Messrs. Bunyard had a further example of their wares on the floor in the centre of the hall. Here was erected an arched trellis on which vines bearing beautiful bunches of Grapes were trained, making a pretty background to pot-grown Fig trees and dishes of Apples, Pears and small fruits. Mr. J. C. Allgrove and Messrs. Rivers of Sawbridgeworth at the west end of the great hall, and the King's Acre Nurseries at the east end, put up fine lots of fruit trees in pots, while other notable stagings of harvested fruits were displayed by Messrs. Stuart Low and Co., the Barnham Nurseries, Messrs. G. G. Whitelegg and Co., of Chislehurst, Mr. Spooner of Hounslow, Mr. R. C. Notcutt and Mr. E. J. Parsons. Fine results of the work carried on at the Rudgwick Fruit School in Sussex were also shewn.

On Messrs. Cheal's stand one was attracted by the two Apples, *Herring's Pippin* and *Ellison's Orange*, comparatively new varieties, also *Crawley Beauty*, which, with its peculiar colouring of dark green and purple, resembles the older *Enore*. Fruit seems to flourish luxuriantly at the nurseries of Messrs. Waterer, Sons and Crisp, judging by the size and quality of such Apples as *Rev. W.*

and Sons on the present occasion. Occupying 300 sq. ft., were staged 170 dishes of vegetables of the highest quality. We always look forward to the wonderful exhibits emanating from the famous Reading firm, but with the present display they surpassed themselves. It is impossible here to enumerate all the good things on view. However, the following will suffice to shew what a wealth of vegetables were staged. Celery of immense size and excellent quality included *Sutton's Superb Pink* and *Sutton's White Gem*; *Leeks*, *Sutton's Royal Favourite*; *Pea Sutton's Peerless*; magnificent specimens of *Ailsa Craig Onion*; *Cauliflowers*; *Carrots*; *Tomatoes*; *Beans* *Potatoes* and a host of other things. Messrs. Sutton deservedly received the gold medal and congratulations from the Council of the R.H.S.

Another excellent display came from the Hon. Vicary Gibbs (gardener Mr. E. Beckett). Here as usual Mr. Beckett shewed the excellent specimens that we always expect from Aldenham. *Turnips*, *Radishes*, *Endive*, *Brussels Sprouts*, *Tomato Peachblow* and *Onions* were all of first rate quality. This exhibit also received the coveted gold medal.

From Messrs. Dobbie and Co. came an extensive exhibit of *Potatoes*, for which they deservedly received a gold medal. Of tip-top quality and

excellently arranged, this exhibit drew a great deal of attention and admiration. Among the innumerable varieties on view we especially noted Kerr's Pink, King Edward, Katie Glover, The Bishop, Rhoderic Dhu, British Queen and Majestic.

Messrs. Herbert Chapman, Limited, shewed their new Tomato Rotherside, which is of excellent flavour. We also noted the yellow Tomato Orange Sunrise, their seedling stringless climbing Runner Bean and Capsicum Rotherside Mammoth.

Mr. T. H. Jones, Llandilo, won the first prize in the amateur section. He received the Sutton Cup for the best exhibit of vegetables in this section. His carrots were of excellent quality.

Mr. W. H. Myers was awarded a silver-gilt Knightian medal and the R.H.S. Vegetable Cup for the most successful amateur competitor. In the amateur classes the produce shewn was generally of excellent quality.

NEW AND RARE PLANTS.

Aster Novæ-Angliæ Barr's Pink.—In its large size and the general structure of the flowers this exceedingly beautiful Michaelmas Daisy might well be termed a deep rosy-pink counterpart of the lavender-blue Queen of Colwall, which we illustrated on Page 493, but the habit is more robust. It is a splendid variety, quite the best of its type. Award of merit to Messrs. Barr and Sons.

Aster Little Boy Blue.—This is a very decorative, dwarf, bright blue Michaelmas Daisy. The plants form neat little pyramids of semi-double flowers. Award of merit to Mr. Ernest Ballard.

Chrysanthemum Cissbury White.—This is the first new decorative incurved variety which received the first class certificate of the National Chrysanthemum Society a fortnight ago and is described on page 493. Award of merit to Mr. S. Aish.

Kniphofia The Rocket.—This variety is much more graceful than most others of the same size. The long spikes are of bright coral red colour. Award of merit to Messrs. Artindale.

Pyrus Eleyi.—On May 9 last this handsome Crab received an award of merit as a flowering tree, when its vinous red flowers and the purplish tinge on the young foliage was greatly admired. This was illustrated in THE GARDEN, May 20, page 240. It is equally handsome when in fruit. It produces large quantities of long stemmed deep red fruits which are nearly as large as those of John Downie and in shape much like elongated Apples. First class certificate to Mr. R. C. Notcutt.

Viburnum Davidii.—This species, which was introduced by Wilson in 1904, is the most distinct Viburnum in cultivation. It is an evergreen shrub of somewhat spreading habit. The stout, shining three-nerved leaves are about 5 ins. long by 2 ins. wide and its chief beauty lies in these and the bluish shining little oval fruits which followed the stiff cymes of dirty white flowers. Both fruiting and flowering sprays were shewn. Award of merit to Mr. Lionel de Rothschild.

NEW CHRYSANTHEMUMS.

The Floral Committee of the National Chrysanthemum Society met on October 2 and made the following awards to novelties.

Blanche de Poitou.—This free-flowering variety is quite the best of the early white Chrysanthemums. It received an award in 1920 as a large, exceedingly free variety and on the present occasion has the special first class certificate as a market variety. Shewn by Messrs. Wells and Co.

Mme. E. David.—A compact market sized Japanese bloom of rich rosy-lilac colour. There is a suggestion of an old gold centre to the flowers. First class certificate to Messrs. Wells and Co.

September Gem.—This very decorative single yellow Chrysanthemum is suitable either for cultivation as disbudded blooms or in sprays. First class certificate to Messrs. Wells and Co.

NEW DAHLIAS.

The following varieties were selected by the Joint Dahlia Committee for trial at Wisley.

F. G. Bird.—A very showy single Dahlia of vivid scarlet colour. Shewn by Messrs. W. Treseder, Limited.

Hector.—A delightful miniature Paony-flowered variety of starlike form and rich orange-scarlet which changes to purplish crimson. Shewn by Messrs. J. Cheal and Sons.

Lady Hall.—This is a medium-sized Paony-flowered Dahlia of light rosy-mauve colouring. Shewn by Messrs. J. Cheal and Sons.

Mrs. Barrie.—A very pretty miniature Paony-flowered variety. The white petals are lined and lightly flushed with rosy mauve and there is a crimson lake zone to the flowers. Shewn by Messrs. J. Cheal and Sons.

OFFICIAL LIST OF AWARDS.

Coronation Cup to Messrs. G. Bunyard and Co., Limited, for the most meritorious group.

Gordon-Lennox Cup to Mr. J. A. Nix (gardener, Mr. E. Neal), for the most meritorious exhibit of fruit by an amateur.

Sutton Cup to Mr. T. H. Jones for the best collection of vegetables.

R.H.S. Cup for Vegetables to Mr. W. H. Myers for the competitor who secured the greatest number of first prize points.

George Monro Memorial Cup to Mr. G. Miller for the best exhibit of Grapes by an amateur.

National Chrysanthemum Society's piece of plate to Mr. H. J. Jones for the best exhibit of Chrysanthemums.

Wigan Cup to Messrs. Alex. Dickson and Sons for the best exhibit of Roses.

Alpines, etc.—Silver-gilt Flora Medal to Messrs. Clarence Elliott Limited, for alpines. Silver-gilt Banksian Medal to Mr. E. Dixon for small rock gardens. Silver Flora Medals to Messrs. Maxwell and Beale for alpines; and Mr. F. G. Wood for alpines. Silver Banksian Medal to Messrs. Bowell and Skarratt for alpines and herbaceous.

Shrubs.—Large Silver Cup to the Hon. Vicary Gibbs (gardener, Mr. E. Beckett), for shrubs. Small Silver Cups to Messrs. J. Piper and Son for shrubs; and Messrs. L. R. Russell, Limited, for Clematis, etc. Silver-gilt Flora Medals to Messrs. R. W. Wallace and Co., Limited, for shrubs; and Messrs. Waterer, Sons and Crisp for shrubs. Silver-gilt Banksian Medals to Messrs. J. Cheal and Sons for shrubs; Messrs. W. Cutbush and Son for topiary; and Mr. Sydney Morris for shrubs. Silver Flora Medals to Mr. G. Reuthe for shrubs; and Messrs. G. Jackman and Sons for Clematis and herbaceous. Silver-gilt Lindley Medal to Messrs. Hillier and Sons for shrubs. Silver Lindley Medal to the Hon. Vicary Gibbs for shrubs of botanical interest.

Chrysanthemums, etc.—Gold Medal to Mr. H. J. Jones for Chrysanthemums. National Chrysanthemum Society's special piece of plate to Mr. H. J. Jones for Chrysanthemums. Silver-gilt Banksian Medal to Mr. W. Vandell for Chrysanthemums. Silver Floral Medals to Messrs. K. Luxford and Co. for Chrysanthemums; Messrs. W. Wells and Co. for Chrysanthemums; and Mrs. C. Lemon for *Lilium auratum*. Bronze Flora Medal to Mr. J. J. Kettle for Violets.

Dahlias, Carnations, etc.—Gold Medal to Mr. C. Engelmann for Carnations. Large Silver Cup to Messrs. Allwood Brothers for Carnations. Small Silver Cup to Messrs. Dobbie and Co. for

Dahlias, etc. Silver-gilt Banksian Medals to Messrs. Carter Page and Co. for Dahlias, etc.; and Mr. J. B. Riding for Dahlias, etc. Silver Flora Medals to Messrs. Stuart Low and Co. for Carnations; Messrs. W. Treseder, Limited, for Dahlias; and Mr. J. T. West for Dahlias. Silver Banksian Medals to Mr. C. Turner for Dahlias; and Messrs. J. Cheal and Sons for Dahlias. Bronze Flora Medals to the Preston Hall Nurseries and Messrs. Jarman and Co. for Carnations.

Roses.—Gold Medal to Mr. Elisha J. Hicks. Large Silver Cup to Messrs. A. Dickson and Sons, Limited. Small Silver Cup to Mr. G. Prince. Silver-gilt Flora Medal to Mr. J. Mattock. Silver-gilt Banksian Medals to Messrs. B. R. Cant and Sons; and Messrs. F. Cant and Co. Silver Flora Medals to Messrs. Dobbie and Co., Limited; and the Rev. J. H. Pemberton. Silver Banksian Medal to Messrs. D. Prior and Son.

Orchids.—Silver Lindley Medal to Sir Jeremiah Colman, Bart. (gardener, Mr. J. Collier). Gold Medals to Messrs. Charlesworth and Co.; and Messrs. J. Cypher and Sons for foliage and Orchids. Small Silver Cups to Messrs. Sauder and Sons and Messrs. Stuart Low and Co. Silver Flora Medals to Messrs. Flory and Black and Messrs. Mansell and Hatcher.

Greenhouse Flowers, Gladioli, etc.—Small Silver Cups to Messrs. Blackmore and Langdon for Begonias; and Messrs. L. R. Russell, Limited, for stove plants. Silver Flora Medals to Messrs. H. N. Ellison for Cacti and Ferns; and Mr. S. Smith for Cacti. Silver Banksian Medals to Messrs. R. J. Bastin and Sons for Begonias; and Messrs. R. G. Cutbush for *Streptocarpus*. Bronze Flora Medals to the Chalk Hill Nurseries for *Pelargonium*; and Messrs. Lowe and Gibson for *Gladioli*.

Herbaceous.—Silver-gilt Flora Medals to Mr. E. Ballard for Michaelmas Daisies; and Messrs. Amos Perry for perennials and Ferns. Silver-gilt Banksian Medals to Mr. H. J. Jones for Michaelmas Daisies; Mr. W. Wells, jun., for herbaceous; and Messrs. W. Cutbush and Sons for herbaceous, etc. Silver Flora Medals to Messrs. Harkness and Son for herbaceous; Messrs. I. House and Sons for Scabious; Mr. G. Reuthe for herbaceous; Messrs. Rich and Co. for herbaceous; and Mr. E. Scaplehorn for herbaceous. Silver Banksian Medals to Messrs. Bakers, Limited for herbaceous; and Messrs. B. Ludhams, Limited, for Lobelias. Bronze Flora Medals to Mr. T. Carhile for herbaceous; and Messrs. John Forbes for Pentstemons. Silver Lindley Medal to Mr. J. MacDonald for a grass garden.

Fruit (non-competitive groups).—Gold Medal to Messrs. R. C. Notcutt. Large Silver Cup to J. A. Nix, Esq. (gardener, Mr. E. Neal). Small Silver Cups to Messrs. Laxton Brothers and the Rudgwick Fruit School. Silver-gilt Hogg Medals to Messrs. J. Cheal and Sons; Messrs. J. Waterer, Sons and Crisp; Messrs. G. G. Whitelegg and Co.; and the Studley College. Silver Hogg Medals to Mr. E. J. Parsons for Apples; and Messrs. Stuart Low and Co. Bronze Hogg Medals to Mr. H. M. Jones for Apples; and Mr. E. A. Watts.

Fruit and Vegetables (non-competitive groups).—Gold Medals and congratulations to Messrs. G. Bunyard and Co., Limited, for fruit trees and fruit; and Messrs. Sutton and Sons for vegetables. Gold Medals to Mr. J. C. Allgrove for fruit trees in pots; the Hon. Vicary Gibbs for vegetables; and Messrs. Dobbie and Co. for Potatoes. Large Silver Cup to the King's Acre Nurseries for fruit trees in pots and fruit. Small Silver Cup to Messrs. T. Rivers and Sons for fruit trees in pots. Silver Hogg Medal to Messrs. Daniels Brothers, Limited, for fruit trees in pots. Silver Knightian Medal to Messrs. H. Chapman, Limited, for vegetables.

CORRESPONDENCE

ORIENTAL LILIES IN SOUTHERN SCOTLAND.

DURING the last summer atmospheric conditions have been unusually exacting with Lilies, and especially with those in exposed situations that attained a very considerable height. Here, in a Wigtownshire garden the strong winds that have so very frequently visited us this season, accompanied by heavy, devastating rains, drove out of root the grandest representative of *Lilium giganteum* I have ever possessed. Though it afterwards developed its fifteen flowers when planted in a large pot, the leaves had suffered so very severely from atmospheric adversity that their delicate green colour was utterly destroyed. The head gardener at Castle Kennedy tells me that he has during the last three months had many experiences of a similar description. In Logan Gardens, where the shelter is greater, with lofty, protecting hedges, they appear to have escaped, but I had not the privilege of seeing them in bloom. In my own *Lilium* borders, which are much more exposed, the other Lilies I endeavour to cultivate were more fortunate, owing doubtless largely to their smaller foliage and less commanding height, and especially such fine representatives as *Monadelpum Szovitzianum* (which was the first to unfold its graceful, lemon-coloured flowers), *Krameri* (capricious, but a veritable gem), *auratum platyphyllum*, *longiflorum Wilsoni* (which flowered impressively) and the delicately fragrant *speciosum magnificum*.—DAVID R. WILLIAMSON.

A USEFUL PLANT FOR THE ROCK GARDEN.

WHETHER at the front of the mixed border in a widely spreading tuft or amid the rocks and boulders of the alpine garden, *Erigeron glabellus* cannot fail to charm and please. It is at its best from June to August, although you will not find that it is devoid of flowers even as late as the middle of September, for it seems to possess an inexhaustible fund of energy and continues to push up new flower-stems all the while. The habit is very compact and bushy, forming little clumps of low-growing foliage from which spring slender stems of medium-sized, very perfectly formed daisy-like flowers in bright mauve with conspicuous golden centre. The point of the plant is its extended flowering season, and where a very dwarf, neat grower is required you will scarcely do better.—H. W. CANNING-WRIGHT.

A GOOD BORDER PLANT.

ALL the *Rudbeckias* are splendid border plants for "backing up" other flowers, proving their value to the hilt as the autumn days come on, and one of the most distinct of all is the species *subtomentosa*. Though most are very tall growers, this does not exceed 2½ ft., so that it is splendid for the small garden as well as under more spacious conditions, and is excellent for large masses in the medium-sized mixed border. The plants have very stiff, sturdy, upright-growing stems with three parted deep green foliage, which is, in common with the stems, rather hairy. The flowers, though small, are produced with astonishing freedom, and resemble golden yellow Daisies with a purple-brown centre. The *Rudbeckia* is not at all fastidious as to soil, and provided that they have plenty of sun, only one thing must be observed, which is never to allow them to remain without division for more than three

years. *R. subtomentosa* quickly makes a fine clump, but this does not mean that it will continue to do so indefinitely. The reverse is true and, unless the whole is lifted bodily, split up into smaller pieces and the ground—into which they are to be returned—well dug and manured, deterioration will set in and the flowers become smaller and less in number.—HAVELOCK.

YUCCA GLORIOSA BY THE SEA.

I WENT down to the East Coast, Skegness in fact, ten days ago to spend a short holiday and was surprised to find blooming in a friend's garden a *Yucca*, within 200 yds. of the waves. Unfortunately it was rather past its best, but nevertheless I took a photograph of it, which I enclose, thinking that it may be of some interest, owing to the plant being so exposed to the elements. Some idea of the growth may be gained from the fact that the lady standing beside it is 6 ft. in



YUCCA GLORIOSA WITHIN TWO HUNDRED YARDS OF THE SEA.

height. It has been planted as far as I can tell you about twelve years and has not flowered before. A glimpse of the sea may just be seen in the background of the photograph.—ERIC B. FRECKINGHAM.

A LATE-FLOWERING CRANESBILL.

UNLIKE most of its kind, *Geranium Wallichianum* is a late bloomer, a species of rare beauty and one that is a robust and long-lived perennial. In habit it is a sprawling, semi-prostrate plant that enjoys the support of a neighbour upon which it may rest its long, trailing red-tinted stems and bluntly-lobed leaves. The blossoms often appear at midsummer, though the usual date is towards the end of July, and an abundant yield is maintained right on without a break into late autumn. These blooms are flat, or saucer-shaped, well over an inch in diameter, and in the typical plant they are a bluish purple with a broad white eye. But in the form or subspecies known as *E. C. Buxton's Variety*, they are, while retaining the white eye, a clear and most

lovely blue, almost rivalling that of *Nemophila insignis*, to whose blossoms they have some resemblance. Another somewhat unique feature of *G. Wallichianum* is its preference for a cool root run and shelter from the hottest sun. In such a situation the flowers are usually larger and the blue of Buxton's variety is, like that of many other blossoms of that colour, seen to better effect. This *Geranium* is quite hardy, sets seed freely and is easily propagated by that means, the seed being sown in the open ground in summer.—J. N. W.

FOR PARTIAL SHADE.

THAT curious Japanese plant, *Kirengeshoma palmata*, still uncommon in gardens, is worthy of a wider appreciation and culture wherever it can be afforded a moderately good and deep loam, not too dry, and, for preference, in partial shade. In such conditions it will soon make an imposing clump, about a yard in height and width, of shining ebony stems, broad and handsome palmate leaves of unusual design, above and beyond which are extended in loose, drooping sprays the quaint yellow flowers. If it never bore the latter, *K. palmata* would be worth a place for its foliage alone, and if it does not expand its petals sufficiently to please some people, others would be content if it never opened them at all, so curiously attractive are the buds, like ivory acorns in cups of highly polished green. *K. palmata* is a first-rate plant for establishing in fairly open woodland where it can make a large mass. Slugs are inordinately fond of its tender shoots as they appear in spring, but beyond that it seldom seems to give any trouble, for, being hardy and of good constitution, it takes care of itself. The flowers appear in August or September, after which the leaves assume brilliant shades of yellow and buff and, with the stems, entirely disappear as winter approaches.—A. T. JOHNSON.

A BEAUTIFUL ROCK PURSLANE.

THOSE who shrink from the glowing magenta tints that predominate in the elegant Rock Purslanes of South America will find nothing to complain of in *Calandrinia grandiflora*, which is an annual that flowers freely in late summer and well into autumn from seed scattered in any warm, gritty soil in May. It makes a bold rosette of smooth fleshy leaves of an attractive glaucous hue veined with reddish purple. Branching flower stems, also in purple, rise above them to the height of a foot, terminating in pendent clusters of poppy-like buds which expand, one at a time, into large and very beautiful flowers, about the size and shape of those of a Welsh Poppy, in a clear, vivid rose. *C. grandiflora* fully deserves to be more widely known. The seed is very cheap and germinates easily.—CAMBRIA.

A GOOD LATE ANNUAL.

OMPHALODES *linifolia* is an annual not often seen in gardens, but it is one that has many good points, among which may be mentioned its long season of flowering, extending from June to November. *O. linifolia* is not a showy plant, but it never fails to arrest attention since its silvery grey leaves and large ice-white flowers on elegant gin. stems have a peculiarly soft effect and make an admirable group among greys and shades of lavender. Culture is easy, all that needs to be done being the scattering of a little seed in the desired spot in April. In many gardens this annual sows itself freely, which means that an October sowing may be made in any light soil with every prospect of early bloom the following summer.—W.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Maincrops of Carrot and Beetroot may be lifted as soon as they shew signs that growth is finished. The lifting of these maincrops in good time is especially necessary on cold, heavy land, as such ground tends to much coarseness in the Beetroot and causes splitting of many roots among Carrots. Should these crops have to be stored outside, use plenty of sharp sand among the roots to minimise the losses from rotting.

Seakale crowns required for autumn forcing are not nearly in such a favourable state of ripeness as may be wished for. The plants have made growth in abundance and crowns required for later use will be all right. To assist those required early to ripen up a little the roots must be fully one-half raised out of the ground so that light and air may reach the crown. In about a fortnight dig them out entirely and give them a week or so on top of the ground to finish off.

Cold Frames not required for propagating any stock or wintering such should all be gradually filled up with young plants of Lettuce and Endive to be growing on for future use. Frames containing any such plants of Cauliflowers, Parsley, etc., should have the surface soil lightly moved occasionally and receive an abundance of air.

The Flower Garden.

Lawns and Verges.—The time to put away the mowing machine can only be decided by the person on the spot. This autumn has been remarkable for the vigour and constancy of the growth of grass in whatever position it may happen to be, and late mowing is absolutely necessary if neatness and general appearance are to be kept up. About this time, in the lesser well dressed portions of grounds and among groups of deciduous trees, the scythe should be used so that the leaves a little later on may be more easily and quickly collected. Verges, too, may soon, in the majority of cases, receive their last trimming.

The Hardy Fruit Garden.

Root-Pruning.—This is a most important operation, and may briefly be explained as one carried out with the aim of increasing fruitfulness. The next six weeks is the most favourable period for the work, and although it is often extremely difficult to see to all matters at the most favourable moment when so many jobs are all waiting, still it is worth a great effort to get it through during the time mentioned if possible, for plenty of fresh roots then get moving before winter. The actual work consists in taking out a trench several feet away from the stem of the tree and carrying out suggestions generally as advised for indoor Peaches, etc.—see issue September 30. It may be advisable to add that should such pruning have been decided upon for a very large tree, it may be wise to be satisfied with doing half way round this season and watch results.

Fruit Under Glass.

Early Vines.—Pruning-time will soon be here, both for plants in pots and those growing in borders. With this operation looming directly ahead an examination should be made at once of the fitness or otherwise of the wood. There is no comparison between the wonderful early ripening last season and the long drawn out process of this. It may be that where pipe-heat has been cut off for very necessary considerations that the readvent of it judiciously used with an abundance of air may yet tone up the condition of unsatisfactory wood and harden it by the end of the month.

H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Trenching.—As crops are cleared away and opportunity occurs this very important work should be dealt with. Trenching is specially desirable where the ground is heavy, such land benefiting in no small degree from autumn trenching, and should be thrown up in rough ridges so that disintegration may take place through the

combined influences of frost and sunshine. Choose a dry spell for the work, otherwise the soil cements and requires a good deal of extra labour to put it into working order in spring. Plots trenched in this way prove suitable quarters for deep-rooting plants such as Onions or tap-roots such as Parsnips, Carrots and Beet.

Potatoes.—Complete the lifting of all late varieties as soon as possible. When saving seed of particular sorts reject unshapely tubers or others not in keeping with the type being lifted.

Asparagus.—Immediately the foliage is ripe it should be cut over and the beds thoroughly cleaned of weeds, afterwards applying a top-dressing of well rotted manure.

Globe Artichokes.—A wise precaution in districts where these die off readily during a severe winter is to slip off a number of the side shoots and pot into suitable-sized pots, standing them in a cold frame during the winter. Excessive damp on a heavy soil is at times more detrimental than frost, but suitable protection may be afforded the old plants by placing mounds of ordinary coal ashes round the crowns.

Turnips.—With the exception of Swedes, all Turnips may now be lifted and stored away, as when left longer in the ground they become coarse and split readily.

General Work.—Continue to clear away all spent crops and decaying leaves from the vegetable borders, placing them in the rot-pit, where in time they will become useful manure. This clean up not only rids the garden of an offensive odour but adds to the tidiness of these quarters and clears away the breeding places of innumerable garden pests. Pea sticks should also be stacked away in readiness for another year, discarding those which are of no further use and augmenting the quantity at the first chance during the winter months.

The Hardy Fruit Garden.

Raspberries.—Remove the old fruiting canes from the Raspberry plantation and tie in the necessary quantity of canes for next season's fruiting. Choose stout, well ripened growths, cutting away any superfluous or weak-growing canes.

Planting Currants and Gooseberries.—The middle of this month is quite a good time to plant Red Currants, Black Currants and Gooseberry bushes, as this early planting enables them to emit new roots before the more severe weather sets in. Plant firmly, and should staking be necessary, have it done when planting, as considerable damage may be caused to young plantations by winter storms.

The Flower Garden.

Iris hispanica.—The Spanish Irises thrive best when planted in sandy loam, slightly enriching the ground by the addition of some well decayed manure from a spent hot-bed. Plant the bulbs about 6ins. apart and about 3ins. deep. This popular Iris is esteemed for its lasting qualities when cut, so it is a wise procedure where space permits to plant a good breadth of the most attractive sorts for this purpose. They are also suitable for planting in clumps near the front of the herbaceous or shrubby borders.

Narcissi.—Among the Narcissi varieties such as Emperor, Sir Watkin, Horsfieldi and Victoria make a fine show when planted in groups in the hardy flower borders, giving a fine display before the other occupants have made much growth. When planting, place the bulbs in groups of from ten to twelve, keeping them about 7ins. apart in the group and about 4ins. deep.

Anechusa italica Dropmore.—Few colours in the hardy flower border find more favour than does that of this beautiful Alkanet. Unfortunately, in very cold districts it often dies out during the winter, so that the present is a suitable time to lift and pot up the old roots, standing the pots in a cold frame until the spring. At the same time a quantity of root cuttings should be inserted for fresh stock. If the thong-like roots are cut in lengths of 3ins. and dibbled into cutting boxes, crowns will soon form and produce plants suitable for flowering the following summer.

JAMES McGRAN

(Gardener to Sir Henry H. Honildsworth, Bart.),
Coodham, Kilmarnock.

GREENHOUSE AND CONSERVATORY.

Gladiolus Colvillei and its variety *alba* have for many years been favourite market plants, and they are well worth more general attention from the private grower. Their cultural requirements are simple and they may be grown in pots for standing in the conservatory or simply cultivated for a supply of cut flower. They may be potted at any time now, and will grow well in any good potting compost. The crowns are not large and six of them may be put in a 7in. pot. They are free-rooting plants and I find it an advantage to give them a little extra room at the root. The same remarks apply to the so-called *nanus* section, which includes quite a number of beautiful named varieties, such as *Blushing Bride*, *Fire King*, *Peach Blossom*, *Queen Wilhelmina*, *delicatissima*, *insignis* and *Non plus Ultra*. Like other bulbous plants used for forcing, they should be stood outdoors and the pots covered with ashes until the plants are well rooted. They should then be removed to cold frames, where they may be drawn from as required for forcing purposes, or they may be grown on quite cool, where there is no desire or facilities for forcing them. *G. byzantinus* is a graceful species with rosy purple flowers, which is worthy of more general cultivation in pots for the cool conservatory.

Bravoa geminiflora is a beautiful Mexican plant that should be much more generally grown for the cool or unheated greenhouse. In the south and west it is more or less hardy in light warm soils at the bottom of sunny walls, and it is just such plants that are on the borderline of hardness that are so valuable for cool houses, where little or no fire heat can be used. Dry roots of this plant can generally be purchased during the winter months, when they may be potted and stood in a cold frame. These plants like a light rich loam with the addition of some well decayed leaf soil, and enough coarse sand to keep the whole porous. One root may be placed in a 48, or three in a 6in. pot. It is a slender growing plant some 2ft. in height, and produces its beautiful orange-scarlet flowers in great profusion during July or even earlier when grown in a cool house.

Manettia bicolor is an old favourite which is seldom seen at the present day. It is a slender twining plant which makes a nice specimen if trained over neat supports. It may also be trained over a trellis or used as a roof climber in a small house. This plant is easily propagated by means of cuttings, especially if they can be placed in slight bottom heat, and if propagated at this time good plants may be had for next summer. The scarlet and yellow tubular flowers are produced more or less all the year round.

Moræa.—There are several beautiful species in this genus, but with the exception of *M. iridoides* there are very few of them in cultivation at the present day. They resemble the *Iris* in habit and *M. iridoides* makes a fine specimen if grown in a large pan, but this and the other species are seen at their best when planted out in a well drained border of rich soil in a cool conservatory. In such a situation these plants will throw up their slender wiry flower stems to a height of some 3ft. or 4ft. The flowers are very fugitive, but are produced in succession over a long period. Most cultivators make the mistake of cutting away the flower stems, ignorant of the fact that they remain green and produce flowers for several years.

Maricas somewhat resemble *Moræa* and the best known species are *corulea*, *gracilis* and *Northiana*. Although they are generally supposed to require stove treatment I have found them do quite well in the ordinary heated greenhouse, and like *Moræa* they are seen to best advantage when planted out in well drained borders.

Cannas and other plants such as *Crinum*, *Agapanthus* and specimen *Hydrangeas* that have been standing outdoors after flowering, should now be placed indoors for the winter. *Canna* may be turned out of their pots and after shortening the shoots, stored in any cool building from which frost can be excluded. I find they keep much better if they are not allowed to become too dry. They keep splendidly under a stage on a earthen floor in a cold greenhouse. *Agapanthus* may be kept in a shed, but as they are really evergreen, it is really much better if they can be given a light position in a cold greenhouse. Large specimen *Fuchsias* and *Hydrangeas* can be safely wintered in a dry shed. *Fuchsias* will stand the winter without water, but *Hydrangeas* should not be dried off to the same extent and if standing on an earthen floor they will generally get enough moisture to bring them through the winter.

J. COUTTS.

Royal Botanic Gardens, Kew.

Dahlia Conference.—The National Dahlia Society has arranged a Conference to be held in the Lecture Room at the Royal Horticultural Society's Hall, Vincent Square, Westminster, on October 17, commencing at 4.30 p.m. Sir Frederick Keeble, K.B.E., F.R.S., has promised to preside, and papers for discussion will be read by Mr. T. Hay, Regent's Park, on "Dahlias for Parks and Gardens," and by Mr. J. T. West, Brentwood, on "Exhibiting Dahlias." There is no charge for admission and everyone interested in Dahlias is invited to attend.

A New Lawn Mower.—The Editor has received for trial, through Messrs. A. W. Gamage, Limited, the well known Holborn firm, a specimen of the new "Qualcast" mower, which is intended to supplant the American side-wheel mowers now so popular in this country. The machine is light to handle and cuts well and closely, while the grass box and delivery plate are entirely satisfactory, whereas with the usual American machine they are ornamental rather than useful. This really excellent machine is manufactured by the Derwent Foundry Company, Derby, who are already turning out 1,000 machines per week.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—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.2. 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.

FLOWER GARDEN.

FLOWERING PLANTS FOR SHADY PLACES (B. T. T., Staffordshire).—Annuals generally are not to be recommended for shady places. The most suitable perennials

include German Irises, Anemone japonica and varieties, Funkias, Aquilegias, Campanula lactiflora, Dodecatheon Meadia elegans, Epigaea repens, Epimedium niveum, Helianthus varieties (if the shade is not too dense), Hellebores, Heterocallis varieties, Hepatica triloba, Mezasa cordifolia, Saponaria othenticalis fl. pl., Symphytum officinale and Trillium grandiflorum (in a moist soil).

JAPANESE IRISES (Folsted).—Although these plants do well under boggy conditions, we are inclined to the opinion that they are not likely to be very successful in a zinc tank unless measures are taken to shade the sides during hot, sunny weather and to provide some drainage.

MILDEW ON IRISES AND TULIP QUERY (M. K., Norfolk).—The best time to dust or spray plants affected with fungi is immediately the attack commences. As the lime which has been used is, apparently, ineffective, we suggest spraying with potassium permanganate, which may be obtained in the form of crystals that readily dissolve in cold water. A pale rose red solution should be made and the spray should be as mist-like as possible. If the Tulips have been grown well, they will not necessarily be "blind" next year. It must be remembered that, generally, it is only full-sized, well ripened bulbs that produce flowers. During the season of growth the bulbs that are not flowering should be encouraged to develop good, firm bulbs by being watered with weak liquid manure.

TREES AND SHRUBS.

PRUNING CLEMATISES ("Bismarck").—The varieties named (Lady Northcliffe and Mme. le Comte) belong to the Jackmani section, and will give a good show of flower if they are pruned hard back in the early spring.

AZALEAS NOT FLOWERING (Folsted).—We assume that it is the Ghent and Molles varieties that are alluded to. Generally these would not flower so freely the second year as when first planted, but if due attention is paid, particularly in the matter of removing the old flower-heads as soon as they have faded, they should flower well afterwards. But our correspondent must remember that last summer's drought was especially trying to all shrubs. As the Azaleas are planted in a made-up bed of peat and leaf-mould, the fact of there being lime in the natural soil should have no effect.

CLEARING SHRUBBERY FOR REPLANTING (R. E. B., S.W.5).—If the Laurels have been established for any length of time, the shallow, sandy soil will require a considerable amount of enriching to render it suitable for more ornamental shrubs and spring bulbs. After the Laurels have been grubbed up the site should be dug two spits deep if possible, incorporating a liberal quantity of any natural manure, leaf-mould and old potting soil that may be available. The shady portion will require different sorts of shrubs, and in this respect our correspondent will no doubt derive assistance and suggestions from the article on the subject in THE GARDEN dated

September 30, 1922. We suggest that as much planting as possible be done this autumn rather than wait three months as apparently is intended.

FRUIT GARDEN.

PRUNING BISMARCK APPLE ("Bismarck").—Although this variety, like many others, does on occasion fruit at the tips of unpruned branches, it is not one of the relatively few that will fruit only in this manner. The best fruits will be obtained by pruning in the ordinary manner so as to induce the formation of fruit-spurs, the leading shoots on bush or standard trees being cut back to from four to eight buds, according to their vigour. In the small garden Bismarck may well be grown as a cordon.

MISCELLANEOUS.

INSECT FOR IDENTIFICATION (G. G., Clacton-on-Sea).—Larva of death's head moth (Acherontia atropus).

IMPROVING GROUND BENEATH ELM TREES (M. C., Oxon).—If the Elm trees are at all luxuriant, the summer shade will prevent much use being made of the ground beneath them unless the trees can be thinned. In addition to this, Elms are great robbers of the soil. If it is practicable, it would be well to dig a trench about 30ins. deep as near to the Elms as may be convenient and sever all the roots met with; this will keep the area free from roots for a time. The ground should then be well dug, and as it is certain to be rather exhausted, it should be improved by adding a considerable quantity of farmyard manure, if this is available, and any old potting soil that may be on hand.

NAMES OF FRUIT.—W. M. W., Thornliebank.—Apples: 1, probably Grantonian (culinary); 2, probably Ecklinville (culinary); 3, probably Royal Late (culinary); 4, probably Wormsley Pippin (culinary); 5, probably Alfriston (culinary); 6, Wellington (culinary); 7, Court of Wick (dessert); 8, probably Lord Derby (culinary). The specimens sent were very poorly developed and the majority were immature, thus making correct identification difficult.—H. W. R., Sussex.—Apples: 1, The Queen; 2, Anne Elizabeth; 3, Charles Ross; 4, Allington Pippin; 5, probably Ecklinville, specimen badly squashed; 6, Pear Beurré Bosc.—N. G. W.—Pears: 1, Bergamotte d'Autonne, dessert, October to December; 2, Triomphe de Vienne, dessert, September; 3, Souvenir du Congrès, dessert, September; 4, Williams's Bon Chrétien, dessert, September.—C. H., Glensford.—Probably Plum Yellow Myrobalan, specimen badly squashed.—G. Y., Brough.—1, Foster's Seedling; 2, Cathead; 3, probably Albury Park Nonsuch (specimen badly scabbed); 4, Gold Medal; 5, Worcester Pearmain; 6, Lemon Pippin; 7, Bleheim Orange; 8, Allington Pippin; 9, probably Prince Edward (specimen badly bruised); 10, Napoleon; 11, Duke of Devonshire; 12, Monarch.—N. G. W.—Apples: 1, Lord Derby; 2, Warner's King; 3, Ben's Red.

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WOODLAND

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Saturday, October 21, 1922

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HARDY PLANTS TO REPLACE BEDDING

The time has come and the season to put hardy plants into position for next year's display.

THERE are numbers of people who object to "bedding-out" plants because, as generally employed, they offend their sense of taste. Even when a better selection is made and the colour effect harmonises they do not like them, chiefly because of the memories they stir of innumerable bedding schemes which were banal at the best and exceedingly offensive at the worst! The objection of most, however, is on the ground of expense. Since the war there are comparatively few gardens which are as well staffed as formerly. The bedding-out being nearest to the house, many have hesitated to give it up because they were uncertain of the extent to which it could be replaced by plantings of hardy perennials reinforced, where desirable, by hardy annuals.

The pictures which illustrate these notes were taken in the formal paved "flower garden" at Gravetye Manor, where this method of furnishing has been in use for a great number of years. Mr. William Robinson was the pioneer in the fight against over-formality, and at Gravetye the veteran author of "The English Flower Garden" (and founder of THE GARDEN) has ample space in which to display the possibilities of more natural methods.

The "flower garden" is quite formal and paved throughout with rectangular paving. (The craze for the comparatively rubbishy crazy paving has received no countenance from Gravetye.) It is as simple in the arrangement of its beds and borders as it possibly can be. There are no elaborate

colour schemes, and the planting is neither specially formal nor studiously natural. A few Roses are included in the scheme, including those two "invaluables" Pharisæer and La Tosca, otherwise a wide variety of plants is grown, though visitors in late summer and autumn cannot fail to be struck with the use which is made of Clematises trained over trellises and archways and also over rough pyramids formed of Larch tops. One of the most striking plants to be seen in this garden is that brilliant blue Houndstongue, *Cynoglossum amabile*. This in some ways resembles the Alkanets (*Achusa*), but is dwarfer and more compact in habit and perhaps more valuable even than those brilliant varieties of *Achusa italica*—Dropmore Variety and Opal. Another plant which is

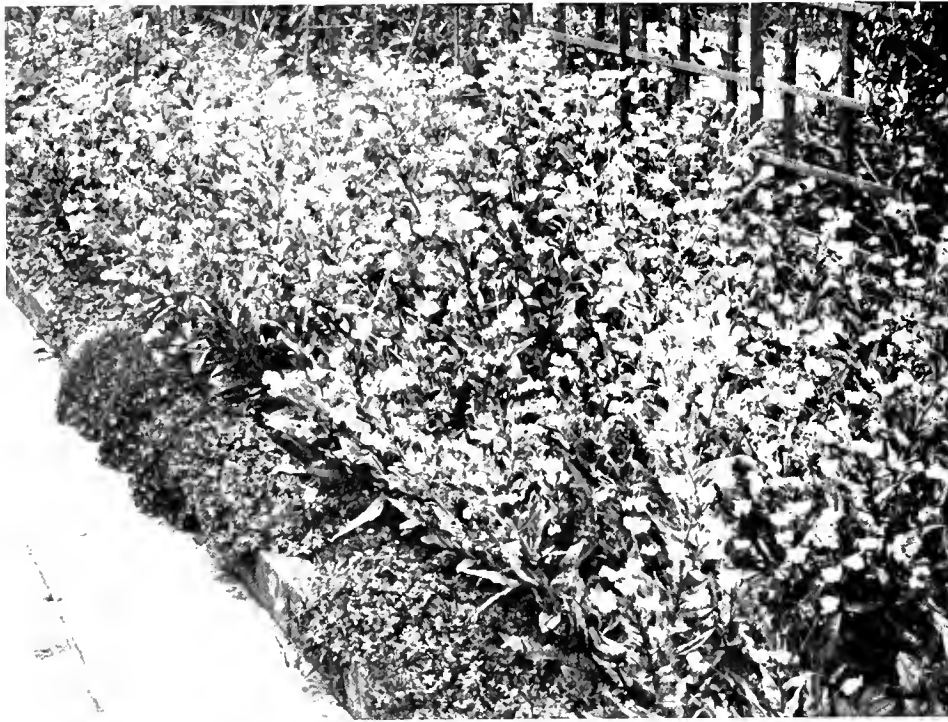
extremely valuable for such a situation is the dwarf *Achusa myosotidiflora*, which is effective for a very long period.

The bottom illustration on the following page shews a border of *Sedum Ewersi*, a deciduous Stonecrop which is valuable from spring to autumn for its beautiful grey foliage and quite attractive when not in flower. The only other species of *Sedum* really useful for such gardening is *S. spectabile atropurpureum*, which also has interesting and beautiful foliage and in August rather handsome heads of red-purple flowers.

Plants which continue in flower over a long period are especially valuable in beds and borders upon which one is sure to look day by day, and which should therefore always provide interest and beauty. Violas, therefore, are invaluable in soils and situations where they may be expected to do well. The cool shades of colour which they provide are always welcome. *Nepeta Mussini*, as at once long-flowering and charming, will occur to everyone as among the desirables. *Scabiosa caucasica* is a universal favourite for cut flower, and singularly graceful and attractive in the border. It has a reputation for being short-lived—some even call it a biennial—but if divided and replanted every autumn it is perennial enough, its short life if left to itself probably being brought about by what physicians call "auto-intoxication." It probably poisons the soil in which it grows while exhausting the food content.



IN THE "FLOWER GARDEN" AT GRAVETYE MANOR.



THE BRILLIANT BLUE CYNOGLOSSUM AMABILE.



GREY FOLIAGE, ROSE FLOWERS—SEDUM EWERSL.

Both pictures taken at Gravetye.

However that may be, this is certainly a plant of sufficient importance to justify its annual removal and division.

Such small-flowering Pentstemons as Newbury Gem, White Newbury Gem and Southgate Gem, useful everywhere, are specially valuable in the South and South Midlands and, of course, anywhere near a western seaboard, as in such localities they are hardy outdoors. The importance of this ability to survive the winter lies not so much in the saving of labour it involves—though that is considerable—but chiefly in the fact that old-established plants flower earlier than young ones from cuttings of the previous year. As the Pentstemon's glory, like that of the Dahlia, is usually curtailed by frost, early flowering is important. Southgate Gem is larger in flower and taller in habit than Newbury Gem, so that the two varieties hardly compete. White Newbury Gem is less free to flower, but valuable for its colouring. Pink Newbury Gem is of small garden value.

The Lychnis family is rather a difficult one in gardens. Some are bad in habit, some hard of colour and difficult to combine satisfactorily with other plants, but two species both usually found listed under Agrostemma are valuable for our purpose. These are *L. coronaria* Walkeri, with wine red flowers and whitish grey, woolly foliage, and the Rose Campion, *L. Flos Jovis*, also with whitish woolly foliage and rosy flowers. The almost scarlet crimson of *L. chalconica* may be useful in some places.

As already mentioned, Roses of the Hybrid Tea section are grown in prominent positions at Gravetye. Excellent varieties for the purpose are General McArthur, crimson; Joseph Hill, salmon pink; Pharisæer, soft pink; and La Tosca, blush. For continuity of flower and solidity of colouring when seen in mass this section must, however, give way to the Dwarf Polyantha varieties. There is here quite a number of varieties from which a selection may be made, all free-flowering and admirable for producing good colour effect over a lengthy period. Good white Polyantha varieties are Katherine Zeimet and Yvonne Rabier. In pink shades Mrs. W. H. Cutbush, Aschenbrödel and Maman Turbat are good. Rose shades are well represented by Ellen Poulsen and Orleans Rose, and rosy crimson by Jessie and Rödhatte. Most brilliant in colouring is the newer Edith Cavell, not, of course, to be confused with the Hybrid Tea of the same name. Yellow shades are represented by the nankeen yellow Perle d'Or and the golden yellow, shaded crimson Camarienvogel.

Lobelia fulgens Queen Victoria is an invaluable plant, but it will not, unfortunately, stand the winter outdoors except in a few specially favoured localities. As in addition it must, to be satisfactory, have abundant supplies of moisture throughout the summer, it is not welcomed in every garden. The newer soft rose and crimson purple varieties of *L. fulgens* (or, as some would make them, hybrids between *L. fulgens* and *L. syphilitica*) are also valuable, but have the same limitations. *L. syphilitica* itself, whether in blue, white or purple, is not worth garden room. The same may be said of the true (green foliaged) *L. cardinalis*.

The Azure Sage, *Perovskia atriplicifolia*, so much admired by all visitors to Gravetye, is of bushy habit and reaches a height of 3ft. or more. It needs accordingly a fair-sized bed or moderately long stretch of border if it is to be seen to best advantage. The slender spikes of blue flowers are attractive and useful for cutting, but much of the beauty of the plant resides in the silver grey foliage on the elegant slender growths.

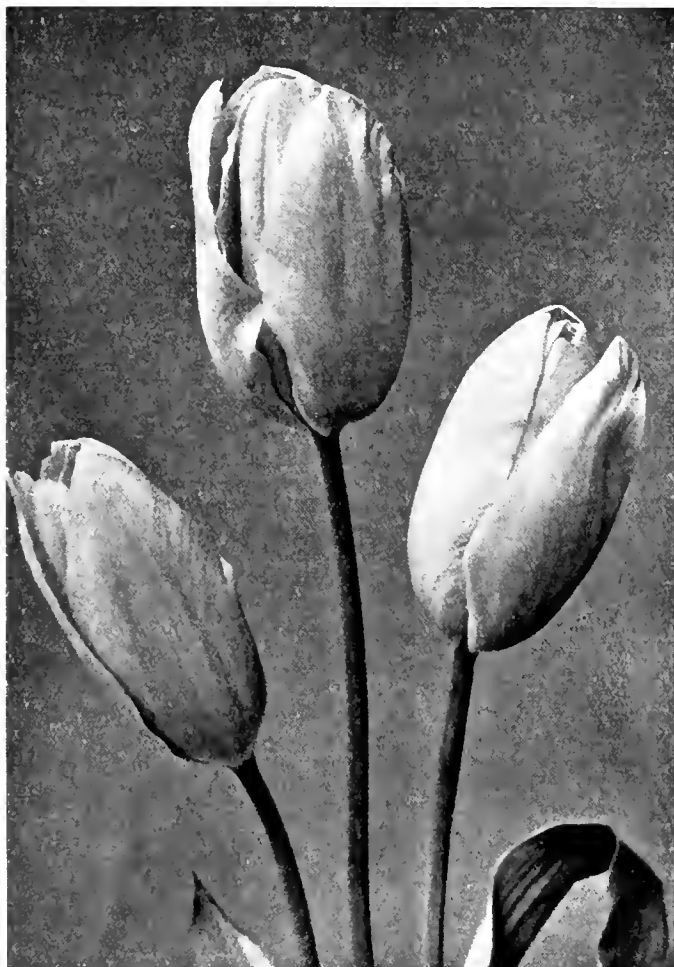
To be continued.

TULIP SELECTIONS

The difficulty of choice—Species—A True Tale of Bishop Stubbs—My two-dozen pots—"For Themselves Alone."

CIRCUMSTANCES alter cases. It is not altogether complimentary to tell a person he picks and chooses in an ordinary way, but when a man is known carefully to pick and choose what goes into his garden it is different. He is labelled wise and careful. If he can pick and choose for himself, it is so much the better, but if he is unable to do it, then the next best thing is to get advice from those who can. In what follows I am venturing to make some suggestions which may be helpful to those who are less conversant with the different varieties than I am. They are not the pronouncements of an infallible expert. If the standard of excellence in an English florist's Tulip is so minutely defined and understood that there is very little room indeed for any individual likes and dislikes to come in, there is nothing of the kind to be found in the other branches of the family. You may pay your money and take your choice, whether it be Melicette or Rev. H. Ewbank, whether it be Avis Kennicott or Mrs. Moon, Arizona or Eclipse is purely a personal matter, depending upon individual taste or the requirements of a particular garden. Among the species group it is somewhat different. I remember being told year's ago in Mr. van Tubergen's garden at Haarlem, where I saw the biggest mass of *Fosteriana* that I have ever seen, that they had repeatedly to send travellers to Mid-Asia to collect it and others like *Eichleri* and *linifolia* as they were unable to propagate them in a satisfactory manner at home. Many of them it will be seen are priced at a higher figure than is usual among Tulips that have been an equal number of years in commerce. Take my special favourite, *linifolia*, and compare it with the lily-flowered *Siren*. The first-named has risen and the last named has decreased in value since 1914. The meaning of it is that *Siren* is a good doer and produces plenty of offsets, while *linifolia* is a poor increaser, seldom giving any offsets and depending for increase upon seed, which in turn does not always behave as it should do. I lost all the species I had during the war, with the sole exception of the pretty little yellow and white *deustemon*. "When my ship comes in" I hope to renew them and start once again upon their culture. Meanwhile I would advise a planting of this kindly disposed species in rock gardens in places where it will get plenty of sun. *linifolia* and *Batalinii* as a rule do well in similar positions in

well drained soil, but they do not increase. I am very fond of *prastans*, which, for a species is not a bad doer. Strong bulbs produce several flowers on a stem. They are a solid sealing-wax red from centre to outside. *Kaufmanniana*, I had almost forgotten; I lost it by pure carelessness, for it is a good doer and once planted takes care of itself. It blooms in March and a patch in bright sunshine when the flowers are fully expanded looks exactly as if some Water Lilies had suddenly changed



TULIP JOHN RUSKIN, APRICOT ROSE.

their nature and taken to Mother Earth. Varieties with glorious red splashes of colour on the outside of the petals and a halo of similar colouring round the pale yellow base have been selected and named. *Ryensis* is about the best. I have also seen pure red, pure yellow and pure rosy-yellow forms which, as so frequently happens in the case of "good things," are, unfortunately for the gardener, of great price. *Tulipa persica* makes itself at home and goes on from year to year without any nursing. Well drained sun-bathed pockets in the rock garden might be filled with it. It makes also a good edging to borders. This much must suffice about the species. The task the Editor has set me is to make selections and I am conscious that so far I have rather been sitting on the gate. It is a job to know which to choose. I envy the definiteness of decision once displayed by William Stubbs, the historian-Bishop. Soon after he

became Bishop of Chester he was approached by the then Archdeacon, who said that his brother clergy would like to make him a present of something that he wanted and which would be useful. They had suggested a pastoral staff. "No," said the Bishop, "if they wish to give me something I really want, let them give me a dozen night-shirts!"

These forewords upon the difficulty of choice have taken on, in my own case, something of the nature of hardy perennials. Nature seems to tell them when I am about to begin. Increased knowledge of varieties makes the task no easier. Do not I wish at such times that the only Tulips in existence were Prince of Austria, Teddy and Louis XIV? Is it not Caroline Testout, the Rose, that is called the slave of the garden? Prince of Austria merits that honourable title among early Tulips. Although Mrs. Siddons, the great actress of early Victorian days liked a garden of sombre evergreens, relieved with little but narrow edgings of deep purple Pansies, might she not have admitted the quite dignified Louis XIV? It is beautiful anywhere, but if the garden lover wants only a garden of bright flowers, he must go elsewhere to suit his taste. Teddy would be far more to his mind, although Homer and a very old Darwin which I never can find in any list—Oliver Goldsmith—would put in their claims as brightest among the almost vermilion reds, and Petrus Hondius as a very bright rose, glorious and gay as only roses minus any blue intermixture can be. Passing on to more precise details, I am going to suppose I have two dozen pots, for each of which I want a different variety, some to bloom early and some later. I would get, of the early singles, Rose Duc Van Thol, Vermillion Brilliant, Prince of Austria, Hector, De Wet and the very sweet Jenny. None of these is either white or yellow, because whites and yellows are easily supplied by different Daffodils. Three early doubles would be included, viz., Couronne d'Or (yellow and orange), Salvator Rosa (rose and white), and Safrano (soft primrose). The remaining fifteen pots would be filled with Cottage and Darwin varieties. Of the first named class there would be Emerald Gem, Cassandra, John Ruskin, Orange King, Bronze Queen and Canary Queen. Then to complete my tale of pots I would select from the Darwins, Sweet Lavender, Pride of Haarlem, William Pitt, Massachusetts, Jefferies (very early), Rev. H. Ewbank, Suzon, The Bishop, and for a real dark, Fra Angelico. Perhaps some will be wondering why no mention has been made about growing Parrot Tulips in hanging wire baskets. It is not a very difficult thing to do, but it is too much of the nature of freak gardening for me. The contorted stems which are caused by the frantic efforts of the poor plants not to pass their allotted span standing on their heads rather nauseates me. Lastly and hardest task of all, I pass on to my choice for planting out of doors. Before I disclose the names of the fortunate (?) ones, I must say that nothing in the way of colour schemes or their sympathy or antipathy with regard to other hues than their own; or their special suitability for this room or that wall-paper, or their stature, or their size of bloom has, as far as I am conscious of it, been taken into consideration. "For themselves alone" is my motto. My twelve Cottage and Breeders are Marksmen, Louis XIV, Boadicea, Prince Albert (orange and brown), Prince Charming, Salomon, John Ruskin, elegans alba, Walter T. Ware, Moonlight, Retroflexa and The President. My Darwins are Petrus Hondius, Teddy, William Pitt, Miranda, Clara Butt, Sophrosyne, Euterpe, Ronald Gunn, Duchess of Hohenburg, Pride of Haarlem, Farncombe Sanders and The Bishop. Undoubtedly I would like to have included a few more, but all those mentioned above are very particular favourites.

of mine and there would be a void were any of them to be dropped out. This, I think, accounts for some omissions which many may think strange, Venus, for example. Many new varieties raised from seed in Holland and by the late Walter T.

Ware, are beginning to get over the garden wall. Which will remain? and which will be kicked out? I do not know—one wants to see more of them than I have done to be able to decide.
JOSEPH JACOB.

BORDER CARNATIONS

SELDOM has the weather been more favourable to Carnation layers than during the present season, so that, where reasonably good stock plants were available, plenty of strong, well rooted layers are now ready for treatment. Most of the present-day Border Carnations are decidedly harder than was the case a decade and more ago. As a consequence in many gardens it is possible safely to transfer the layered plants to their flowering quarters. In a great many gardens specially prepared beds are devoted either solely to Carnations or to them associated with some other plant, and especially with Gladioli. This is almost an ideal combination, and such a bed is interesting and beautiful for a considerable period. Others, like the present writer, consider that, while the finest outdoor Carnations are grown in special beds, the Border Carnations may also be grown in the hardy flower border. In this we fully recognise the fact that our method, if practised solely, precludes the making of a collection of Carnations, but this is amply compensated for by the pleasure in coming upon patches of favourite Carnations cheek by jowl with the herbaceous perennials along the front of the border.

However, when growing Carnations in this manner their requirements must always be studied, and it would be courting disappointment and failure simply to plant them and to leave them pretty much to their own devices for several years, just as one does with, say, Michaelmas Daisies. The Carnation is a much more exacting plant, and the ordinary flower border method would soon result in weedy flowers, fewer in number and inferior in attraction to the old-fashioned garden Pinks. As Turner wrote so long ago as in 1550, the Carnation is "made pleasant and sweet by the wits of man and not by nature," so that more perhaps than any other border flower the wits and skill of man are required if the plants are to be enjoyed at their highest perfection, but, of all flowers, the fresh and fragrant Carnation is well worth the little trouble it demands. In the herbaceous border it is quite an easy matter to take out the old soil where the Carnations are to be planted and to replace it with a fresh compost. The ideal Carnation soil is a mellow fibrous loam with a little well rotted cow manure and sufficient coarse sand to keep the whole porous, but this ideal is not always possible of attainment. The rather too heavy soil can always be rendered more

suitable by the addition of old mortar rubble and leaf-mould, while a proportion of turfy loam will greatly improve a light soil. Lime in some form is essential to the well-being of Carnations, and the best and safest method of applying it is in the form of old mortar rubble. A poor soil cannot grow good Carnations, and if, as is too often the case, good loam and suitable organic manure are not available, the lack of plant food must be made good in some other form. At the present season chemical manures are not to be recommended for use on poor soils intended for Carnations, but bone-meal or quarter-inch bones applied at the rate of 4oz. per square yard will yield a valuable supply of plant food.

If a fresh Carnation-bed is being made, as open and airy a site as possible should be selected, and perfect drainage is very essential. The precise space allowed for each plant is a matter for individual consideration, but as a general guide it may be said that where fresh plants are raised or purchased annually from 12ins. to 15ins. will be found a suitable distance, but if the plants are to continue longer an additional 3ins. will be found an advantage. When planting the layers great care must be taken not to plant too deeply—it is better to err on the other side and plant shallowly, because in this case the danger of wind disturbance can be avoided either by staking or by placing three short stakes around each plant. Firm planting is also an important item.

Fancy Carnations are becoming increasingly popular, as befits their manifold charms. As a short selection for the beginner the following sorts may be recommended: Steerforth, as shown by Mr. J. Douglas at the show on July 11



BORDER CARNATION KELSO.



PINK (HERBERTII) GERTRUDE.

FAST - GROWING TREES—II

Having dealt with the Poplar in our last issue, the writer now confines his attention to various quick-growing trees. The following notes should be helpful to intending planters, especially where a screen is needed.

last was the premier white ground fancy, and in Viceroy he had the premier yellow ground fancy. Kelso was also beautiful. The Bride, rosy red markings; John Ridd, yellow, suffused with red; Mona, buff, suffused with pink; Delicia, pink and crimson markings; Mrs. H. L. Hunt, lavender on white ground; Liberté, maroon and crimson on rich yellow; Daisy Walker, rose pink on white ground; Lord Kitchener, bright red on glistening white; and Pasquin, yellow ground edged and flushed with rosy lavender.

Of the many excellent selfs one can recommend such old favourites as Uriah Pike, rich crimson and of great fragrance; Raby Castle, pink; and Elizabeth Shifner, orange buff, with Bookham White; Border Yellow; Dora Blick, orange apricot with a sheen of gold; Fujiyama, intense scarlet; Grey Douglas, deep heliotrope with a sheen of French grey; Gordon Douglas, bright crimson; Duchess of Wellington, lavender; Innocence, pale salmon pink, almost a blush pink; Mrs. A. Brotherton, clove scented, heavily splashed with crimson-purple on white ground; Rosy Morn; and Bookham Clove, a splendid crimson bloom with a delicious fragrance. For fragrance few, if any, sorts can surpass Scarlet Clove, Surrey Clove, Salmon Clove and King of the Cloves.

Besides these Border Carnations proper the newer Perpetual Border Carnations, which Messrs. Allwood Brothers have been shewing so well, are worthy of a place in any garden. The best sorts include Avondale, rich salmon pink; Brilliant, heavily edged and flaked with chocolate on white ground; Highland Lassie, white ground, edged with red; Rosalind, heavily pencilled with red on white ground; Sussex Pink; and Sussex Maid, flaked with rose pink on white ground. The popularity of the hybrid Allwoodii seems to be fully assured.

Like many other very floriferous plants, they succeed best when renewed periodically—each year for preference—either by division or from cuttings. The latter method is preferable. Owing to their long season of flowering they are invaluable for edgings and for underplanting, being especially useful among Delphiniums. That they are no substitute for the Border Carnations Messrs. Allwood would be the first to admit; indeed, the introduction of the "Perpetual Borders" shews that the Hayward's Heath firm are alive to the special beauty of the Border Carnations. Some of the newer varieties of this popular flower shew a distinct advance both as regards form and colouring upon the older and better-known sorts. This is well exemplified in the "May Day" coloured Maud, which is very dwarf and compact of habit. Marion, which is a rose-coloured self, shews more true Pink blood than do many of these hybrids. The flowers are fringed and very fragrant. Nell, on the other hand, shews more of the Perpetual Carnation blood. Peach-pink in colour, it should be valuable for grouping in the herbaceous border, a position for which the vigour of the crossbreds renders them more suitable than the Border Carnations.

For some reason amateurs will confuse or compare these Allwoodii with the Perpetual Pinks sent out by Mr. C. H. Herbert and sometimes called *Herbertii*. These latter have all the perennial character of the Border Carnations, which in some ways they much resemble. They are easily propagated in a similar way, rooting readily from layers, but may not be pulled apart indiscriminately like most of the Allwoodii. Like all the Carnations and Pink family, they are best established in autumn. The variety illustrated (*Gertrude*) is a very good one. Other indispensable sorts include Queen Mary, Model, Red Indian, May Queen and Victory. They are exceeding free flowering and "perpetual" in character. A. C. B.

IN planting the pleasure grounds surrounding a new house, and the renovating of existing plantations, specimen trees on lawns and in the park, the rate of growth of the trees chosen is of necessity of great importance. It is not for us to find fault with the plantings of our ancestors, fifty to one hundred years ago, but rather to introduce variety where and when we can. Few of them could have had any desire for variety in the planting of the grounds and woodlands surrounding their houses. It is quite true to say that many choice exotic trees are of recent introduction, but there are a few old specimen trees scattered over the country proving that some exotic trees were known, but little planted. In the Thames Valley for instance, there are a number of fine old specimens of the Tulip Tree, *Liriodendron tulipifera*, in the Ham, Petersham and Teddington districts.

Next to having vigorous young trees in any scheme of planting, the greatest asset for quick results in the growth of the trees is in the preparation of the ground. The work may take some time and on the surface appear expensive, but it is as well to remember that once planted, at least in the case of large trees, if growth is satisfactory, the ground will probably not be disturbed again in the life of the planter. Hence the necessity to trench the ground some 2ft. deep, with holes 8ft. or 10ft. across for single specimens. Manual labour must be employed to trench the ground when dealing with small plantations and shrubberies, but for large areas steam tractors can be requisitioned.

In dealing with large areas and in small plantations for that matter, the question of planting Larch, Spruce or Douglas Fir among the permanent trees need not be dealt with, except to point out its value in providing shelter for the trees in the early years of growth, and tending to force upright rather than wide-spreading growth.

While most fast-growing trees are deciduous, where they thrive the value of *Thuja plicata* (grown in some gardens and nurseries as *T. gigantea* and *T. Lobbi*), *Cupressus Lawsoniana*, *Picea excelsa* and *Pseudotsuga Douglasii* must not be overlooked. Planted fairly thickly at first and gradually cut out as growth proceeds, these ever-green conifers quickly form a shelter belt or screen of the first importance in any scheme for the laying out of new pleasure grounds.

Acer macrophyllum, the Oregon Maple, as the Latin name suggests, is a large-leaved tree, native of Western North America, where trees 100ft. in height are not uncommon. It grows freely with us from seeds. On a lawn as a specimen tree it is wide-spreading, but in a plantation grows taller in proportion to the spread of the branches. During April the yellow flowers, borne freely in pendulous racemes, are conspicuous. Several varieties of the Norway Maple (*Acer platanoides*) are fast-growing trees and valuable for ornamental planting. *A. p. Reitenbachii* with green leaves in summer which in autumn change to a brilliant red, is one of the most brilliant and reliable trees for its autumn colour. In contrast to this is the variety *Schwedleri*, which has rich red leaves in April and May, these turning green as summer approaches. The Sycamore (*Acer Pseudo-platanus*) is one of the hardiest and best trees for town gardens and poor soils. Few large trees have produced more varieties under cultivation. Of these the variety *erythrocarpum* is one of the most

interesting and attractive, being gay during most seasons from June till autumn, with quantities of red fruits hanging in conspicuous racemes. The Pilgrig Plane is similar in character, for while the fruits are not quite so large, there are more of them in a raceme. *Acer dasycarpum*, the Silver Maple is another fast-growing tree, and as a lawn specimen very attractive when the silvery under-surface of the leaves are seen swaying on the semi-pendulous branchlets in the breeze. This tree is also readily raised from seeds.

In all except the coldest parts of the country the Indian Horse Chestnut (*Aesculus indica*), should be freely planted now that trees are being grown from home-saved seeds. With green foliage of almost tropical luxuriance, and attractive upright panicles of white flowers, which are borne in June and July, it should become one of our most beautiful summer-flowering trees. The double Horse Chestnut is a fast-growing tree, and producing no fruits to tempt the free use of sticks and stones by small boys, is preferable to the common Horse Chestnut for planting in public parks and gardens. For the same reason the hybrid Chestnut *A. plantierensis* (*A. Hippocastanum* × *A. carnea*), with delicate pink blossoms should be considered as a specimen or avenue tree of free growth.

The Tree of Heaven, *Ailanthus glandulosa*, is an attractive pinnate-leaved tree of easy culture and free growth from Northern China. It thrives in towns and is a good tree for street planting. Usually male and female flowers are borne on separate trees. Cuttings made of the thick fleshy roots placed in light soil, or the fibre of a propagating frame, provide an easy method of propagation.

Betula Maximowiczii, the Japanese Birch, is of free and open growth, with large leaves, 6ins. or 7ins. long and 4ins. or 5ins. broad. Native trees reach 100ft. in height and though first introduced to this country less than thirty years ago, trees are growing freely which, with their large leaves and conspicuous female catkins, promise to be a distinct addition to our taller exotic trees.

The Western Catalpa, *Catalpa speciosa*, is perhaps not so well known to many readers as the Indian Bean, *Catalpa bignonioides*, which is one of our best town trees, and the most beautiful large-flowering tree we have during August. *C. speciosa* (syn. *C. cordifolia*) is taller and faster in growth, flowering a fortnight earlier, the individual blossoms larger but not so freely produced. Both trees should be planted, the Western Catalpa in the woodland and plantations, with *C. bignonioides* (syn. *C. syriacifolia*) as a lawn or park specimen tree.

That attractive pinnate-leaved tree, *Cedrela sinensis*, is a native of Northern and Western China. When first introduced it was, and still is, grown in some nurseries as *Ailanthus flavescens*. Known as the Chinese Cedar, a considerable number of trees have been raised during the last twenty years from seeds collected by Mr. E. H. Wilson. Several of these, growing in a rather moist and shady position in the *Rhododendron* dell at Kew, are making excellent growth.

Each succeeding year that beautiful Chinese tree, *Davidia involuerata*, and the closely allied *D. Vilmoriniana*, are increasing in favour with most tree lovers. Vigorous in growth and free-rooting, trees are growing as luxuriant as the Limes (*Tilia*) which they resemble in leaf. Mr. L. A. Dode, the French botanist, described three species, but growing in gardens only two can be

distinguished: *D. involucreta*, with red petioles and veins of the leaves, which are hairy beneath, and *D. Vilmoriniana* (syn. *D. lata*), with green petioles and smooth under-surface. So far, I believe, only the last named has flowered and produced seeds in this country. Though free in growth when they once commence to push, the hard walnut-like seed-lie in the ground sometimes for two years before germination begins to shew.

As an ornamental tree *Juglans nigra*, the Black Walnut of Eastern and Central United States, is much superior and faster in growth than the common Walnut, *J. regia*. A tall, handsome tree up to 100ft., sometimes more in height, it has long pinnate leaves 15ins. to 24ins. in length consisting of thirteen to twenty-one, rarely more, leaflets. There is a very fine specimen of the Black Walnut in the London County Council Park at Marble Hill, Twickenham, and also several good street trees growing in the Kew Road, Richmond.

Of the six or eight of the *Nothofagus* group of Beeches tried in the open in Britain, *Nothofagus obliqua* appears to be the hardiest and fastest growing, its only likely rival being *N. antarctica*, but this does not produce such a clean stem and tall straight growth. Trees raised from seeds at Kew obtained by Mr. Elwes in 1902 (twenty years ago) are now about 50ft

high. In addition to its free growth this Chilean Beech is an elegant and attractive deciduous tree. A valuable timber tree of South America, the Roblé Beech should be worth experimenting with in the West of Scotland as a forestry tree, as it should not be difficult to import seeds.

The Red Oak, *Quercus rubra*, is the best of the American species for general planting in Britain. It is faster in growth than the common Oak, young trees in particular growing vigorously. A deciduous tree up to 100ft. in Eastern North America, the largest tree in Britain recorded by Messrs. Elwes and Henry, is at Pains Hill, 80ft. high with a trunk 10ft. in girth. The large three to five lobed leaves are 8ins. to 10ins. long and 4ins. to 6ins. wide. Though of much less value as a timber tree than the common Oak, the Turkey Oak, *Quercus Cerris* is more ornamental for plantation and landscape planting, besides being faster growing.

In a stiff and moist soil the Willows have few rivals among trees of rapid growth. I place *Salix caprea*, the Blue or Cricket-bat Willow first because of its free and upright growth, together with the value of the wood for cricket bats. For ornamental trees of large size the planter has also *S. Salamonii*, *S. alba*, *S. babylonica* and *S. vitellina*

Three Lime trees, all of free growth, are worthy of extensive planting in preference to the widely grown Common Lime, *Tilia vulgaris*. *T. euchlora* (syn. *T. dasystyla* of nurseries) is a handsome tree with large glossy green leaves, especially notable because so far as I am aware it is "immune" from the aphides which detract so much from the value of Lime trees in general. *T. platyphyllos* forms a large shapely tree of free growth, as also does the pendent Silver Lime, *T. petiolaris*. In the large family of Elm trees two in



A FINE HORSE-CHESTNUT.

particular claim attention because of their fast and vigorous growth. These are the Cornish Elm, *Ulmus stricta* (syn. *U. cornubiensis*) and the Guernsey Elm, *U. Wheatleyi*. While not so distinctly ornamental as many of the trees previously mentioned, in certain soils and positions, less favourable to the growth of choice trees, these Elms would be very valuable. A. O.

[Most readers will prefer the glossy foliage and handsome trunk of the Sweet Chestnut, *Castanea sativa*, to the rather flamboyant leafage and uninteresting bark of the Horse Chestnut. This latter is certainly not a good roadside tree, as the rough leaves gather dust and the whole tree becomes disreputable. The Horse Chestnut has, of course, other good points besides its rapid growth. The partly expanded foliage is pleasing in spring, but the same may be said of many other trees, and the trees are certainly striking when wreathed with blossom. The growth of the Sweet Chestnut varies immensely in different soils and situations. On the Buckinghamshire soil, for example, so famed for its Beeches, the Sweet Chestnut actually grows more quickly than the Horse Chestnut, which hereabouts does not flourish. An avenue of Sweet and Horse

Chestnuts planted alternately at Checkenden Court, in the Buckinghamshire country, but actually in the county of Oxford, illustrates the point well, for the Sweet Chestnuts, which were the smaller when planted, have quite outdistanced their supposed "nurses." It is scarcely necessary to point out the Sweet Chestnuts and Horse Chestnuts are in no way related the one to the other. While writing of the Sweet Chestnut it is permissible to regret that better varieties from the point of view of their fruits are not usually planted. Most of the seedling forms grown here produce "nuts" almost as insignificant as Beech mast. Probably careful selection would provide even seedling plants which would produce in good summers nuts of commercial value. There are, of course, numerous named varieties in commerce, but seedling trees are usually quicker in growth and somewhat more shapely. In 1921 Sweet Chestnuts everywhere cropped heavily, but, with rare exceptions, the produce was practically valueless. On soils where it really flourishes, the Common Birch is admirably quick-growing and on account of its grace and beauty, specially valuable where very limited space can be devoted to the screen, since it helps the screen and provides foreground at the same time. Under favourable conditions the Birch progresses almost as fast as the Lombardy Poplar.—Ed.]

HALF AN HOUR IN MY GARDEN

I HAVE been charmed to-day (September 29) with a few things which seem to be flowering particularly well for so late a period of the season. *Ceanothus Gloire de Versailles*, *George Simon* and others are as good as possible and in the soft light of these autumn days, particularly beautiful. The *Buddleias*, too, are still fine and I noticed a specially well flowered piece of *Caryopteris Mastacanthus*. *Hypericum Moserianum* and *patulum Henryi* made a splendid gleam of yellow in the sunshine; I also noticed a plant of *Berberis Darwinii* full of bloom as if it had mistaken the season.

Hydrangeas still make a good show and the old *Spiræas*, *callosa alba* and *Autony Waterer* side by side with *Weigela Eva Rathke* were a blaze of colour. I was much pleased with a fine plant of *Andromeda (Oxydendron) arborea*, flowering, it is true, somewhat behind its time, but of great beauty. What a pity this tree does not do better in this climate. A contrast to this in size and also out of season is a clump of *Vaccinium Vitis-idaea* in fruit and flower simultaneously. *Laurustinus*, too, is making a good show. I am afraid several of these plants may feel a severe check before long.

The Vegetable Marrows have already been nipped off by ground frost and we may expect at any time now sufficient frost to cut any plants that are too tender for the time of year.

Other plants I noticed to-day in flower were *Abelia sinensis*, quite a number of *Clematises*, *Escallonia*, *Ligustrum Quihoui* with its long and fragrant flowers, and a few flowers were also to be found on *Ligustrum lucidum*. Some of the hardy Heaths are still giving a good show and among them, flowering very well, were *Erica Maweana*, *E. vulgaris Searleii* and *E. vagans alba*, also *Hydrangea quercifolia*, *Spartium junceum* and *Cytisus monspessulanus*. To these may be added several varieties of *Veronicas*, a few blooms of *Magnolias* and some grand spikes of *Yuccas*. Altogether a goodly list of flowering shrubs for the end of September! F. GOMER WATERER.

ALLIUMS IN THE FLOWER GARDEN

ALLIUM is a large genus comprising something like two hundred and fifty species, natives of many parts of the world, but largely represented in Europe. In cultivation they are more commonly seen in the vegetable quarters than in the flower garden, for the genus covers all our Onions, Leeks and Shallots, besides Garlic and Chives. But the Onions of the flower garden should not be neglected, for among them there are many fine things. Probably the best known is the bright yellow *A. Moly*, a really handsome plant flowering in June, closely followed by the tall *A. neapolitanum* with its great white, globular head and important foliage. The species that are good for garden culture cover a wide range of colouring,

for there is the strikingly handsome *A. cernuum*, a Siberian plant with flowers of a good blue on thin stems; the familiar yellow *A. Moly*; several whose colour ranges through rosy red, magenta and purple; the great white *neapolitanum*; and, besides others of white colouring, *A. karataviense*, a native of Central Asia, with short-stemmed spherical heads of bloom and very wide leaves.

The subject of one illustration, *A. angulosum* or some very near species, may be taken as typical of the form and way of flowering of the greater number of the Alliums. By no means the least beautiful is our native wild Garlic (*A. ursinum*), not uncommon in woody places. If it were not for its rank smell that is only too freely given off,



ALLIUM ANGULOSUM OR NEAR SPECIES.



THE WHITE-FLOWERED ALLIUM KARATAVIENSE.

it would be a desirable plant, especially in places where garden joins woodland, for not only is the white bloom attractive, but also the glossy green foliage, much like that of Lily of the Valley, but of a deeper colour and more polished surface.

GERTRUDE JUCKETT

POISONOUS FRUITS AND SEEDS

FROM time to time cases of poisoning occur among human beings and animals which can be traced to eating fruits or seeds of various plants. These cases have sometimes proved fatal, and at others have ended after a few days' sickness with no worse result than an unpleasant remembrance. As there are many plants that bear fruits and seeds of an unwholesome nature, though not necessarily poisonous, it is wise to instil into the minds of children the necessity for leaving unknown berries or seeds alone, this being the only way to safeguard them against possible injury. The case is still fresh in the minds of people of a child being killed by eating Belladonna berries picked from a plant in a Scottish botanic garden. The law subsequently held that the municipal authorities of the city were to blame for exposing a poisonous plant where it would be tampered with, and allowed the parents compensation. That may have been good law, but whether it was common-sense is another matter. Some people *still* think that it is the parent's place to train their children to distinguish between right and wrong, and to curb any tendency they may notice in a child to picking and eating anything that may take his or her fancy. There are many plants that bear unwholesome fruits which are exposed in public parks and gardens, and necessarily so, for they are often very ornamental, but we ought not to expect municipal authorities to discard them because some unprincipled child may pick and eat the fruits; neither should public bodies be expected to take the part of nursemaids.

In the following notes attention is directed to a number of plants which bear fruits or seeds of an unwholesome nature.

Atropa Belladonna.—This is one of the most poisonous plants found wild in Britain, and it is known under the common name of Deadly Nightshade. A valuable drug is obtained from the plant, hence it is cultivated in large quantities by herbalists and is usually to be found in collections of medicinal plants in botanic and other gardens. It is wild in many parts of the country, probably as an escape from cultivation, but it is these wild plants that offer the most serious temptation to children. The plant is herbaceous in character, grows 1½ft. to 2½ft. high, and bears bright, black, attractive fruits, which are extremely poisonous. Potato fruits, usually green in colour and about 1in. in diameter, are produced freely by some varieties; they must not be fed to stock, as they possess poisonous properties. Two plants belonging to the same family, although not strictly poisonous, are unwholesome and may cause trouble in some cases. These are the Bitter-sweet (*Solanum Dulcamara*) and the annual weed *Solanum nigrum*. The former is a climbing plant well known for its masses of rich red berries and purple flowers, while the latter is remarkable for the profusion of its small round berries. People have been known to eat the berries with impunity, whereas in other cases sickness has quickly followed.

Bryony (*Bryonia dioica*), a wild climbing plant belonging to the Cucurbit family, is well known by reason of its rapid growth, small yellow flowers and small round fruits, which are red when ripe.

Fifteen berries eaten by a child have resulted in death. Cherry or Common Laurel, a bush met with in most gardens, bears racemes of bright black fruits which are said to contain prussic acid. They are very juicy, and people might be tempted to utilise them for jelly, but although the cooked juice might not be unwholesome, it would be wise to exclude them from domestic use. The kernels of one kind of Almond are poisonous if eaten in quantity. That is the Bitter Almond (*Prunus Amygdalus* var. *amara*). Fortunately this variety is rarely met with in cultivation in Britain. The kernels of other varieties are wholesome.

Questions are often asked regarding the value of the Caper Spurge (*Euphorbia Lathyris*) as a substitute for capers. The fruits are sometimes utilised for the purpose, but they are extremely dangerous, and if not very carefully prepared may cause serious illness or even death. The plant often appears as a wilding and fruits freely. The genus *Euphorbia* may be regarded as poisonous throughout.

Castor Oil seeds are attractive and not unpalatable, but by eating three or four serious vomiting may occur, while a larger number would probably lead to collapse. Laburnum seeds are decidedly poisonous, and scarcely a year passes without records of sickness or death among children from eating the seeds. Not alone are the seeds poisonous, but the twigs also, and children have been known to become very ill from biting the shoots. The seeds of Broom (*Cytisus scoparius*) and Gorse (*Ulex europaeus*) also possess poisonous properties. Daphnes, too, are poisonous and as the bright red fruits of *Daphne Mezereum* are very showy, children should be warned against their use. Lupins, Henbane, *Lathyrus sativus*, Lords and Ladies (*Arim maculatum*), Black Bryony, Privet, *Rhamnus* and *Euonymus* are other plants bearing more or less attractive fruits which have dangerous qualities and should not be eaten. The outer fleshy part of the Yew seed is not poisonous, but it is probable that the inner hard seed, if eaten, would prove fatal. Juniper berries have strong diuretic properties, and should not be eaten, while the cones of several conifers are doubtfully wholesome. Acorns are often fed to stock, yet stock have been killed by over-indulgence. Injurious effects appear to follow when cattle are suddenly turned into an Oak wood, or park where Oak trees abound, after a heavy fall of Acorns.

Although so many of our common ornamental berries and fruits are unwholesome, there are many others that can be profitably used for culinary purposes. Thus the various Crab Apples make excellent jelly, as also do the Japanese Quinces (*Cydonia japonica* and *C. Maulei*); *Berberis* fruits may also be used for jelly; Sloe fruits, *Vaccinium* berries, the wide range of Rubi, including the Blackberries and wild Raspberries, are wholesome; Rose hips may be turned into jelly; Hawthorn fruits, although not palatable, are not poisonous; while wild Gooseberries are edible but sour.

This list does not include all the unwholesome or wholesome fruits, but it serves to direct attention to a number in each group. W. D.

FORTHCOMING EVENTS.

October 24.—Southampton Chrysanthemum Society's Show (two days).

October 25.—Irish Gardeners' Benefit Society's Meeting.

October 26. Bristol and District Gardeners' Association's Meeting, Wargrave and District Gardeners' Society's Meeting, Hertford Horticultural Society's Annual Show.

GREASE-BANDING FRUIT TREES

THIS is a very important matter, and ought to receive timely attention, which means applying the bands forthwith.

THE CODLIN MOTH—In epitome I will tell readers who have not had any experience of this pest what it is like and how it destroys their crops of Apples. The caterpillar of the codlin moth is responsible for the worm-eaten Apples so plentifully found, alas! in our orchards. Apples found under the trees prematurely coloured are, generally, the ones attacked by the grub and dislodged before their time from the branches. I daresay many cultivators have noticed the cobwebby appearance of the young fruits with the flowers attached in the early summer-time. The moth has laid eggs in the "eye" of the young fruits and when the caterpillars or grubs hatch out—they are varied in colour, being shades of brown and grey—they work their way tunnel-fashion to the centre of the fruit in due course. As the core is the hardest part of the Apple, the grub tunnels past it but close to it, and this causes the core to harden with its pips prematurely, and then the fruit falls early, when the branches are shaken by the wind. The food of the caterpillar is taken from the pips while the grub is inside. Having exhausted its

Grease-banding stops the female crawling past the bands. Many stick on the latter, so that a renewal of the greasing of the bands is necessary at least twice during the winter months. Flannel



APPLYING A BAND WITH PASTE.



SCRAPING THE STEM.

food supply the grub crawls out of the Apple and makes for itself a home on a rough branch under the bark, covering the hole with a web. They thus remain established in the tree when they leave the fruits in good time, but thousands of them fall, with Apples, to the ground, and grease-banding will prevent them again gaining access to the branches.

THE WINTER MOTH—Grease-banding in this case is most efficacious, and must not be neglected. The bands should be put in place forthwith—two to each stem if possible. The female is practically wingless and must crawl up the trunks or supports to gain the branches. They are grey in colour with full, heavy bodies for moths. The caterpillars eat the leaves of other fruit trees as well as Apples. The female winter moths come out from a chrysalis under the trees where they developed from the caterpillars that went to the soil in summer, and crawl up the trees or props and lay their eggs on the branches and buds.



PUTTING ON THE GREASE.

cloths, in my opinion, form the best bands, as this material absorbs the oils or grease and makes it difficult for the moths to pass *under* the bands. The latter should be fixed to the stem or prop at least twice, from the ground and be firmly tied to the stem in two places about 1 in. from the top and bottom of band respectively. Select a comparatively smooth part of the tree trunk for the band, which should be folded twice after greasing, thus enclosing some of the grease. Cart grease with a thin outer smearing of lardline will answer the purpose, the main point being to maintain the bands in a greasy condition. One band will do if it be carefully applied and afterwards attended to. If grease is scarce, tar may be used on the rags wrapped round the stakes and any branch

supports, but tar must not be used on the bare bark. If grease-proof paper is used, as is more usual, care should be taken to see that it makes contact with the trunk of the tree all round, otherwise the moths will crawl between tree

and band. With paper, too, the "grease" employed becomes important. A grease specially prepared for the purpose should be used or one of the excellent non-greasy banding preparations, such as Stictite G. G.

chosen should be suitable for massing, but in my opinion many of our most beautiful shrubs are much more effective when employed as specimens, and in the above list I would mark Nos. 1, 2 and 9 as being notable examples for this purpose.—
CICIL M. BAILEY.

CORRESPONDENCE

THE WIGAN CUP: WHO WON IT?

IN the list of awards made at the R.H.S. Holland Park Rink Show the Wigan Cup is given as being won by Messrs. Alex. Dickson and Sons, and to those who have not heard the story of the events leading up to this I ask your permission to explain. The points are: (1) Who really did win the Wigan Cup? and (2) What is it offered for? I will deal with No. 1. Now if your readers will refer to the list of awards, they will find that my exhibit was placed first—gold medal—and when the award card was sent out, there came the Wigan Cup card, written in as being awarded to me. To my great surprise, when I arrived back from sending out the result to my friends, I found someone had taken away the card. This was very annoying, and I soon found myself at the enquiry office seeking the reason. All I could find out was that I must wait until the secretary had dealt with it, as something was not in order. I cannot understand why the Council could not have made quite sure before sending out the cards and so making me look like an impostor. As regards No. 2, the Wigan Cup is offered (see page 5 of Autumn Schedule *re* Challenge Cups) for the best exhibit of Roses. Even if I am not eligible because I won it in 1921, how can it be said truthfully and fairly that it was given to the best exhibit if held by another exhibit that was placed second. I consider that if I, as the holder, was not eligible, the only fair course would be for the R.H.S. to withhold it. Even Mr. Dickson could not understand the action. To see two cards for this award upon two separate groups and also various papers giving both myself and Messrs. Alex. Dickson and Sons as the winners is ridiculous, and I trust that the R.H.S. will see that this never occurs again. May I ask, why have such stupid conditions? for the only way to keep up the standard of the exhibits and get us all to put out our best is to give all a free hand. If a firm can win each year, let them have what is their just reward.—ELISHA J. HICKS, *Hurst, Berks.*

THE TWELVE BEST SHRUBS.

HERE are twelve shrubs that I should not care to be without. My garden is in North-Eastern Scotland, where late spring frosts are often troublesome. *Spiraea arguta*, *Viburnum tomentosum* var. *plicatum*, *Buddleia variabilis* var. *Veitchiana*, *Ribes sanguineum*, *Deutzia Pride of Rochester*, *Diervilla Abel Carrière*, *Forsythia suspensa*, *Hamamelis mollis*, *Cytisus albus*, to which add *Rhododendrons*, *Azaleas* and *Roses* according to individual taste.—BRODIE OF BRODIE.

IN reply to Mr. G. Harvey (page 507), it is very difficult indeed to recommend the best twelve shrubs without having any clue as to the enquirer's tastes. Some people want a gay garden, pure and simple; some like old friends; others like to study the ways and habits of comparative strangers. There are, however, a number of well tried favourites without which no garden really seems complete, so that few novelties can as a rule be included among the first dozen. The following list would please many people, and the plants mentioned would do well in most gardens:

Early-flowering.—*Hamamelis mollis*, *Pyrus japonica* (red form) and *Magnolia stellata*. Later spring.—*Berberis stenophylla*, *Lilac* (a middle shade), *Rhododendron Ascot Brilliant* (bright red and early) and *Azalea* (choosing one of the late-flowering red or deep pink). Summer.—*Rose Grüss an Teplitz* (or *Rosa Moyesii* if it must be a species), *Philadelphus grandiflorus* (late-flowering Mock



AURATUM LILIES AT HOLLAND PARK SHOW.

Orange), *Spartium junceum* and *Buddleia variabilis magnifica*. Autumn.—*Crataegus Pyracantha* (for its glorious berries).—A. E. W.

AS an occasional contributor to THE GARDEN and in answer to your request for the opinion of readers as to the best twelve flowering shrubs for gardens, I venture to suggest the following: (1) *Eucryphia punctifolia*, (2) *Embothrium coccineum*, (3) *Berberis Darwinii*, (4) *Cytisus praecox sulphurea*, (5) *Rhododendron Pink Pearl*, (6) *Mock Orange* (*Philadelphus*), (7) *Ribes sanguineum*, (8) *Forsythia viridissima*, (9) *Tricuspidaria lanceolata*, (10) *Escallonia Donard Seedling*, (11) *Veronica Gauntletti* and (12) *Lilac*, the variety to be chosen according to the planter's taste as to colour. I should not care to claim that the above are the "best" twelve, but I have every confidence in recommending them as being "very fine." A word of warning may be necessary, as some of the above would not thrive in every district and garden, accordingly I would advise that they should not be planted in quantity until they had been given a good trial—this applies especially to Nos. 1, 2, 9 and 11. Your correspondent G. Harvey mentions that the varieties

have been shown in England. They were brought all the way from Arran in the Clyde (an achievement—sixty stems!). They will not grow in any other soil even on the same island as they do in their present site. They have been established for almost forty years. These Lilies in their native country (Japan) attain only half this size. Some of the largest stems grown measure 8ft. 6ins. high and have as many as forty-two blossoms on one stem!—G. M. A.A.

(Pictures of these Lilies growing outdoors at Ormidale have appeared in THE GARDEN on several occasions.—ED.)

HARDY HYBRID LOBELIAS.

A ONE-FAMILY exhibit always appeals to me. There is the interest born of "fellow feeling"; there is the interest inseparable from every collection of similar but yet different things; and there is the astonishment at seeing what well directed effort has accomplished. Not even Bunyard's fruit or Sutton's vegetables were as interesting to me as the comparatively humble display of seedling Lobelias staged by Mr. B. Ladham of Shirley, Southampton. It was a sort of equivalent to House's well known *Scabiosa caucasica*. My memory

carries me back to some fine Irish raised seedlings that used to appear at shows in the days of long ago, but magnificent as they were they lacked the variety which was to be seen at the "Skating Rink." *Cardinalis*, *fulgens*, *syphilitica* and some of their hybrid forms have been laid under contribution, with the result that we get an array of colours and shades which are both novel and pleasing. The rich reds and crimsons of wide-petalled flowers, arranged in handsome spikes and associated with various greens and maroons in the foliage, are probably fairly familiar. Mr. Ladhams, however, provides, in addition, roses, pinks and purples. Naturally, the varieties are not all equally good, and in some directions improvement may be expected. I made a note of B. Ladhams (bright crimson-scarlet with green foliage), Shirley Beauty (mulberry-red), Mauve Queen and Delight (two good mauves or pale grey-purple) and *carminea* (rose). There is room for improvement especially in the whites and deeper purples, so I hope Mr. Ladhams will persevere in his work.

One wishes there was no difficulty about their cultivation. Mr. Ladhams advocates covering the plants in ashes for the winter, and then in spring dividing the clumps into single crowns and replanting fairly thickly for effect. We used to litt ours in olden days in the autumn and box them, keeping the boxes all winter on the dry side in a cool greenhouse or frost-proof frame. What is the experience of readers?—JOSEPH JACOB.

COLLETIA SPINOSA.

MR. VEITCH of the Royal Nurseries, Exeter, has kindly replied to the enquiry which I made in *THE GARDEN* of September 30 as to the flowering season of *Colletia spinosa*. He informs me that there are two varieties of this species, one flowering in spring, distinguished by the varietal name *infausta*, the other and normal form flowering in autumn. Here we have only the spring-flowering variety.—HERBERT MAXWELL, *Monreith*.

WITH reference to Sir Herbert Maxwell's note on the above-named plant in your issue dated September 30, page 496, I think he will find that the form that flowers with him in early summer has dull pink inflorescences, while in the case of the autumn-flowering form the shrub bears pure white flowers. I have here plants that observe these differences of time of flowering and colour of flower. In other respects the two plants appear identical, so I cannot say whether they are distinct species or only seminal variations.—H. W. GREGG, *South Devon*.

THE GREAT AUTUMN SHOW.

"NOTHING succeeds like success," they say. Certainly the Royal Horticultural Society will, another year, have to find still larger quarters for the Autumn Show. The Skating Rink at Holland Park Road is quite as inadequate for such a Show as Vincent Square proved itself last year. Nothing short of Olympia will suffice, judging by present conditions and the crowd at last Tuesday's Show. By half-past two there was barely standing place in the most favoured divisions of the Show; and as for seeing anything special or talking to a trades representative at his stall, it was not to be thought of—indeed, one might fairly have said: "I can't see wood for trees!" I came away a disappointed man, vowing I would never again pay a 4s. taxi fare for so little profit or pleasure, and for talk—women-talk—of lesser stature it must have been a suffocation rather than a sight. Is it a sign of the times, I wonder, or is it that young ladies are wondrous wise, that I saw so few of them there? Did they feel cut out

by the beauty and complexions of the fruit, and so carefully kept away? I should like to know, for there were masses of elderly ladies and their companions, regiments of stalwart, rosy-cheeked men with elastic step and far-reaching arm. On the other hand, elderly men were comparatively scarce and quite insignificant by the side of their glowing manhood testifying to the health-giving power of the garden life in these strenuous times. But I was most impressed by one thing, and that is the immortality conferred on anyone who has the honour to give his name to a new fruit of outstanding excellence. We all know the fame of the Ribston Pippin, renowned throughout the globe, in Australia, Tasmania and Europe, to say nothing of the continent of America. What, then, will be the fame of the individual after whom is named the huge Lord Derby or the yellow and red striped fruit the Rev. W. Wilks, named after our late good secretary? I did not taste the fruit, of course, but its appearance, size and beauty go for anything. They must hand down to posterity an honoured name that will defy the ages—more lasting than brass or monument. Really, to-day it would be fair for the raiser to say: "If my fruit honours

growth might be observed. The soil is clay, lightened with leaf-mould and road grit, and has received copious waterings in dry spells. The plant appears not to object to light shade, but, like many choice shrubs, it does not like neighbours too near on either side, and a few branches which have had to compete with other shrubs for space are not in a very flourishing condition. It has always flowered earlier than the time mentioned in *THE GARDEN*, varying a little according to the season. April is generally mentioned as the month when its lovely and strongly fragrant flowers may be expected. This spring some pest (probably sparrows) destroyed a number of the flower-buds as they were swelling; next spring it is proposed to spray with quassia as a precaution. This *Viburnum* is said to be difficult to propagate; at least to grow on its own roots, but bud cuttings are said to be satisfactory.—A. E. W.

HYACINTHS IN PANS.

I THINK perhaps the enclosed photograph of Hyacinths grown by an amateur in moss fibre may interest some of your readers who have never tried this method of culture. The bulbs were planted in October and placed in a cellar. They received no artificial heat other than that usual in a dwelling-house, as I have no greenhouse. Nevertheless, they were very beautiful in March, and provided welcome blossom for six weeks.—E. M. I.

WILD FLOWERS AT COUNTRY SHOWS.

YOUR note on the above in the issue of October 7 is a matter well worthy the attention of horticultural societies when considering their schedules for 1923, while much can also be done by donors of special prizes to encourage the exhibiting and classifying of wild flowers at shows. For many years this has been an interesting class at the annual show at Alnwick, Northumberland, where the excellent practice prevails of having all specimens pressed and dried carefully and mounted on white cards, with their common and also



GROWN WITHOUT HEAT.

your name it is I who should rather profit by it." Lord Derby's and Mr. Wilks' names may be as enduring as the Egyptian king Amenophis and his queen Tia; will they not be hieroglyphed on labels as their predecessors are on temple walls?

After struggling in vain for two hours to gain a comfortable look at anything I gave the whole thing up, and when I got outside an enthusiastic policeman said: "Did you ever see such a crowd of motorists? There must be two miles of them, anyway!"—E. H. W.

VIBURNUM CARLESII.

INTENDING growers may like to know that besides the form with pale pink buds there is one in which these as well as the open flowers are white; this is much less attractive, and it is well worth while taking trouble to obtain the first mentioned. In growth this appears to be a very spreading shrub and not very tall growing. It is possible that the habit may be affected by the stock upon which it is worked, but a plant the writer carried home from one of the Royal Horticultural Society's shows in a small pot two and a half years ago is now 4ft. across and not more than 2ft. in height. No attempt has been made at pruning so that the natural

botanical names attached. At the recent show of the society named the first prize was awarded to an excellent collection of 140 specimens. By following this practice the exhibitor had been making up her collection since February, selecting each species as they came into flower, thus enabling a very representative collection of the wild flowers of the district to be shown, and many of these were of very considerable interest, being rare species or varieties not often met with, and which necessitated much searching on the part of the collector. Not only does this make an interesting exhibit, but the exhibitor also gets a thorough grounding in the life-history and habitats of the wild flowers which will doubtless be of much interest and may be of great practical use to them in after years. The same society also encourages the collection of the various wild fruits of the district, and although these have fallen off greatly of late years, one was greatly pleased to see one very fine specimen basket at the recent show, which was well worthy of the many appreciative remarks made about it. The exhibitors in this class use flat baskets, designing and moulding in clay and overlaying the whole surface with the fruits. Excellent results can thus be achieved.—HORRICKS.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Globe Artichokes.—The unused heads of this vegetable, also old and decaying leaves, should be cut away and the plot lightly forked over. This and the removal of any weeds there may be will give the plot a tidy appearance. Where protection is given these plants for winter it had better wait at any rate for another month or so. By removing some of the side growths at this time and placing them in pots of suitable size some useful plants will be available for spring planting. The wintering of the plants potted up can be done in a cold frame.

Autumn Broccoli.—These are turning in well, and cold nights must be watched for. The usual bending over of the large leaves will be sufficient unless the weather gets very cold, in which case lifting them and heeling them in on a warm border or in a pit may be necessary.

The Flower Garden.

Spring-Bedding Plants.—The filling of beds and borders with the various plants which come under this heading will soon claim attention. In the meantime should such beds have been or still be occupied with summer and early autumn plants, an early clearance of them must now be arranged so that a proper preparation of the soil can be carried out and the beds allowed to aerate for a little time before refilling. Heavy land should receive a liberal dressing of burnt refuse and decayed leaves, while if the soil be light a good dressing of cow manure and leaves will be suitable. The actual planting arrangement must naturally be to great extent a matter of individual tastes and requirements. An immense point in favour of a spring display is that a really fine one may be obtained with a very small outlay. A free and judicious use of Wallflowers, Myosotis, Polyanthus, Cheiranthus Allionii, Arabis and Erysimum will give a wonderfully effective return, even without the addition of any bulbs, and it should be noted that each of the plants mentioned are within the range of everyone and can be raised and grown without the aid of artificial heat. Assuming these plants are to be relied upon for spring flowering, the coolest soil should always be allotted to the Polyanthus.

The Hardy Fruit Garden.

Cherries.—Provided suitable aspects can be allowed for this fruit, a good selection of varieties will supply early, mid-season and late gatherings. Where Cherries are appreciated and an annual yield expected, an orchard-house should be used. The extra cost in providing such a structure would be repaid not only by a guaranteed regular crop grown without interference from weather and birds, but because the fruits come finer in size, colour and flavour. The following varieties can be recommended: Black Eagle, Early Rivers, Frogmore, Early Biggareau, Governor Wood, May Duke, Bigarreau and Morello. The last named is the best Cherry for kitchen purposes, does well on a north wall, and is also to be recommended for pyramid or standard work in orchards. As an earlier fruit for kitchen use May Duke can be recommended. In the preparation of the soil a free use of old mortar rubble is beneficial.

Fruit Under Glass.

Late Muscats.—These will require a little extra nursing so that the finish may be as favourable as possible, thus rendering possible the keeping of the berries in a good condition. It is important to see that all superfluous foliage is removed and the hot-water pipes always warm. On favourable days a fairly free circulation of air should be allowed, but rigidly shut out a foggy atmosphere. No hard and fast rules are possible as to a fixed temperature, as this may with benefit be varied according to the structure in which the Vines are growing, large or small. As a general guide do not allow the night temperature to fall below 60° to 65° until the Grapes are ripe, after which gradually drop to 10° less, according to climatic conditions. Ripe, well finished bunches which may have become destitute of leaf covering should not be continuously exposed to direct rays of hot sunshine. If only a few bunches require shading, sheets of tissue paper will be handy, but when a large number has to be seen to the easiest way is to throw an old fruit net over the glass.

H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Parsley.—Now that sharp frosts are imminent, means should be taken to protect this popular herb so that fresh supplies may be obtained for a lengthened period. Where lack of frame accommodation exists cover the bed with a few wire pea trainers laid on narrow strips of wood about 18 ins. from the ground. This will prove a useful guard for running mats over on frosty evenings, and thus protect the bed. Feathery Spruce branches are also useful for this purpose.

Rhubarb for Early Forcing.—A number of roots of a good forcing variety should be lifted shortly and placed in a corner of the Mushroom-house or other darkened structure where a certain amount of heat and moisture may be obtained. If suitable quarters are available, a dish may be had by Christmas or early in the new year.

The Hardy Fruit Garden.

Root Pruning.—Where this important work has become necessary preparations may now be made so that any over-luxuriant trees may receive the required treatment to reduce rank growth and bring them to a more fruitful state. If the work is undertaken now, more satisfactory results may be expected than when the trees are resting. The fact of the foliage still being on the trees should enable them more readily to overcome the shock of the large roots being removed. They are further induced to push out young fibrous roots more quickly after root pruning is finished. Where the soil has become exhausted or sour it is a wise procedure to mix some good fibrous loam with the ordinary soil before filling in about the roots. In the case of stone fruits lime rubble is also beneficial if the soil in its present state is short of lime. When root pruning is being done the necessary trench should never be opened nearer the tree than 3 ft. The operator should be guided in this matter more by the age of the tree and the spread of the branches than by any set rule.

Strawberries.—Remove any runners which may have formed on young plantations, afterwards running the hoe between the lines so that weeds may be checked. Older beds should have the soil more deeply stirred, after which a generous dressing of half-rotted manure may be applied.

Black Currants.—Bushes of these should never be allowed to become overcrowded in the centre, otherwise the quality of the fruit is poor, the berries being small and "woody" in flavour. As the fruit is produced on the young wood the heads need an annual thinning, and the sooner this is done now the better will it be for the ensuing year's crop. After completing the work of thinning (and removing any unshapely branches) add a surface mulch of good farmyard manure and fork lightly between the rows.

Fruits Under Glass.

Figs.—Thin out any soft or superfluous growths and regulate the short, sturdy shoots essential for next season's crop. In this way more light and air reaches the wood, thus assisting the ripening process.

Vines.—If the wood of the Vines is not thoroughly ripened before the dull, sunless weather sets in, the chance of a profitable crop next year is considerably lessened. Therefore by ventilating freely and keeping a slight touch of warmth in the pipes the ripening process will be hastened. Where it is desirable to clear a vinery of any remaining bunches, these may well be cut now with enough wood attached to allow of their being placed in bottles and stored in an airy fruit-room. Should the borders be dry, see that they are given a thorough watering. The ventilators should be kept open night and day.

The Flower Garden.

Gladioli.—Where early-planted Gladioli show signs of ripening their foliage they should be lifted with stems attached and laid in a cool, airy place more thoroughly to dry off. Before storing for the winter all offsets should be rubbed off and the corms graded according to size.

Roses.—Place a stake to plants that may have made extra long growths this season, otherwise they may sustain damage from the winter storms. Standards should also be examined at this time and the stakes strengthened or renewed where necessary.

JAMES McGRAN

(Gardener to Sir Henry H. Holdsworth, Bart.),
Coodham, Kilmarnock.

CONSERVATORY AND GREENHOUSE.

Lily of the Valley.—As soon as the crowns can be procured they should be potted up. One dozen to eighteen crowns may be put in a 48-sized pot, and after potting plunged outdoors and fully exposed to the weather. This plunging applies to all hardy plants used for forcing purposes, as they all force more readily after being fully exposed to the cold. If Lily of the Valley is required for Christmas, some six weeks should be allowed for forcing, and even more if a high temperature is not at command. This plant will stand a temperature of 75° to 80° if plunged in a warm case, and there are few hardy plants that will stand such a high temperature with impunity. Where one relies on home-grown supplies of this plant for forcing they should be lifted as soon as the foliage turns yellow and has partly died down, selecting the strongest crowns for forcing and reserving the smaller ones for planting fresh beds. For this purpose fresh beds should be made every year, and if the plants are well grown they should be at their best for forcing the third year from planting. When using home-grown plants some cultivators prefer to lift them in turves and fit them into boxes. By this means and not forcing too hard one is assured of a plentiful supply of good foliage to go with the flowers. Other hardy herbaceous plants that may be used for this purpose are Astilbes (both white and rose coloured), Dicentra spectabilis and Solomon's Seal, the latter a most beautiful and graceful plant for the decoration of the cool conservatory. They should all be put into pots suitably sized according to the size of the roots.

Double-Flowered Wallflowers and Canterbury Bells if prepared as advised during July should now be lifted and potted, afterwards standing them in cold frames until such time as they are required. Damp should be guarded against during winter, giving them ample ventilation at all times; in fact, the frame lights should be pulled off whenever the weather conditions are suitable. The ordinary single-flowered varieties may be potted up for the same purpose, and are very useful for furnishing the unheated greenhouse. In a large public garden like Kew, where such common plants are often used for the conservatory, it is surprising how the general public appreciates them when used in this way. Other hardy plants of which I previously advised the use, such as Campanula persicifolia in blue and white, also the variety Telham Beauty, as well as strong roots of Anemone italica Dropmore var., should now be lifted and potted. By using plants of which everyone can grow a supply, one can easily add to the variety of plants used for furnishing the ordinary greenhouse.

Liliums.—Where a stock of Liliums has been used for the conservatory—here I have in mind L.L. regale, Henryi, auratum and speciosum—they should now be examined for repotting. If they are in small pots and are in good condition, with plenty of healthy roots, they should have a shift into a larger-sized pot without disturbing the roots. If in bad condition at the root, they should be turned out and all decaying scales and roots cleaned off, afterwards repotting them in a mixture of good medium loam and flaky leaf-soil, with the addition of plenty of clean coarse sand to keep the whole sweet and porous. Such varieties as root from the stem should only have their pots about three parts full, this to allow for top-dressing when the plants are growing. Liliun longiflorum is now obtainable, and as soon as the bulbs come to hand they should be potted without delay. If this cannot be done at once, they should be laid out in boxes and covered with leaf-soil, as Lily bulbs will suffer if left exposed to the air for any length of time. Where seed has been saved it should be sown at once and the boxes or seed-pans stood in a cold frame or cool greenhouse. Wherever possible choice Liliums should be raised from seed. Here I would warn cultivators who have little experience of raising Lilies from seed that some species form bulbs without showing any signs of germination, and seed-pans with tiny bulbs are often thrown away.

Macleania insignis is a very beautiful plant for the cool conservatory, and its long, slender shoots are well adapted for training over the sides of the greenhouse. Another point in its favour is the fact that it will succeed in a partly shaded situation. It flowers more or less all the year round, and the bright Vaccinium-like flowers and dark evergreen foliage are very attractive. It is easily propagated at any time by means of cuttings, and does best when planted out in a well drained bed of rough, lumpy peat and loam with plenty of coarse sand to keep the whole porous.
Royal Botanic Gardens, Kew. J. COURTS.

EDITOR'S TABLE

A FINE LILY.

Very rich in colouring, fine in shape, substantial and of good size was a bloom of *Lilium speciosum* which arrived recently from Mr. J. Henry Watson of Withington, Manchester. The spray was gathered from outdoors. Mr. Watson considers the variety, which has now flowered for the first time, being one of the offspring of a batch of seeds obtained several years ago from the Yokohama Nursery Company, an improvement on any known form of *L. speciosum*. We should very much have liked to compare it with a typical blossom of *L. s. magnificum*, but one was not to hand. It is very difficult to carry in one's mind's eye the minutiae of colour and form which would enable a satisfactory comparison to be made, but the flower sent was certainly admirable and of fine substance, colour, form and size. With the petals straightened out the flower measured about 7ins. across, the diameter of a very respectable Auratum Lily.

Correction.—Owing to a typographical error, the plant illustrated at the bottom of page 500 in our issue dated October 7 was inadvertently described as a *Berberis* instead of *Spirea* Thunbergii.

M. Corveon Honoured.—Alpine lovers and readers generally will be pleased to hear of the distinction conferred on our valued contributor M. Henry Corveon by the Jury of the International Horticultural Exhibition at Brussels. The Jury after closely inspecting more than twenty-five volumes from the pen of the distinguished author of "Fleurs des Champs et des Bois," asked permission to add to the Diploma of Honour which they awarded "the warmest congratulations of the Jury," unique distinction.

National Carnation and Picotee Society.—At a committee meeting of the above Society on the 30th ult. it was decided to hold two separate exhibitions of Border Carnations in 1923, the earlier one on July 8 and the later on the 23rd. This obviously will extend the chances of all classes of Carnation growers to stage their flowers at their best, and it is to be hoped that the opportunities will be accepted by growers who have not hitherto managed to bring their flowers up to Vincent Square.

The United Horticultural Benefit and Provident Society.—The annual festival dinner of the above Society was held at the Imperial Hotel, Russell Square, W.C.2., on October 4, Mr. Leonard Sutton presiding. Among the large number of guests was Sir Frederick Keeble. In his speech the chairman briefly outlined the history of the Society and explained to the visitors what good the Society was doing. The most interesting event of the evening was the presentation of a gentleman's wardrobe and barometer to Mr. C. H. Curtis in appreciation of his services as chairman of the committee for twenty-one years.

ANSWERS
TO CORRESPONDENTS

FLOWER GARDEN.

TREATMENT OF LILIUM AURATUM (M. C., Norfolk).—We suspect that the soil in the bed near the stream is too wet and cold during the winters for the well-being of the Lily bulbs, and in such a position it would probably be best to lift the bulbs during the late autumn. Unless it is intended to purchase fresh bulbs each year it would be best to grow the Lilliums in a more suitable place, and especial attention should be paid to shelter from rough winds. A light, rich soil is the most suitable, and the bulbs should be planted quite 6ins. deep.

CHRYSANTHEMUMS FOLIAGE UNHEALTHY (C., Chester).—There is some sign of thrips on the Chrysanthemums, but the main cause of the trouble appears to be overfeeding. Great care is needed with this variety (H. W. Thorp) in the application of manures.

HARDY PERENNIALS ("Sussex by the Sea").—The herbaceous perennials that would give a display with the least attention would include German Irises, perennial Sunflowers, Day Lilies, Michaelmas Daisies, Anemone japonica, Golden Rod, Helianthus, *Liatris pycnostachya*, *Lysimachia clethroides*, *Lythrum roseum superbum*, *Megacodon confidolus*, *Papaver orientale*, *Polygonum amplexicaule*, *Pyrola elagnosum*, *Rudbeckia californica*, *R. maxima*, *Spiraea palmata*, *Veronica latifolia*, *V. virginica* and the hardier early-flowering Chrysanthemums, such as the Masse family and *C. Normandii*.

LILIES UNSATISFACTORY ("Lily," Glasgow).—Our correspondent does not give the variety of Lily he has grown in a box for two years. Undoubtedly the cause of the stunted growth is exhaustion of nutriment in the soil and general weakening of the bulbs. After the first year the bulbs should be planted in the border in due course or thrown away and new bulbs planted in their place. The bulbs are, probably, very small now if examined. Use new compost and new bulbs.

GRASSES AND CLEMATISES ("Cotswold" and W. R. J.).—The Grass *Festuca Crinum-Ursi* belongs to the *Fescue* Grass genus, and these latter grow freely all over this country, forming some of our best pasture land. Hard *Fescue* will thrive in very poor soil, grows freely by the roadsides in the country, is very dwarf, seeds mature rapidly, and the reproduction of the plant is assured throughout the season. *Festuca Crinum-Ursi* was introduced in this country about the year 1890. It only grows 3ins. high, and will establish itself in any ordinary garden soil. It is considered ornamental, but not much is known about it generally as a garden plant beyond use on rockeries, where it succeeds. "Cotswold" should prune his Clematis as he would *C. montana*—thin out weakly shoots and decaying ends of older wood. If overcrowded, some of the big shoots may be shortened considerably. "W. R. J." would probably find "British Wild Flowers," by Lubbock, suitable. He should write to The Abbey Library, 1, Little College Street, Westminster, S.W.

PRIMULA CALYCYNA ("Bismarck").—There should be no special difficulty in flowering this old species if it is grown under fairly cool conditions. That is, it should not be exposed to the full sunshine in a small town rock garden. With most of the alpine species winter damp is their chief enemy, and to combat this the crowns should be kept fairly high and pieces of sandstone may be placed around them.

ROSE GARDEN.

ABOUT ROSES FOR GROWING (R. M., Botness).—Hugh Dickson, a strong-growing variety; Irish Elegance, vigorous in ordinary soil; Lady Pirrie, vigorous; General McArthur, strong growing; Golden Emblem, vigorous; Ophelia, moderately strong growing; Mrs. George Marriott, not as vigorous as the above named; and Mrs. David McKee, similar to last-named variety.

ROSES ATTACKED (T. H. S., Andover).—The Roses are attacked by the ordinary rose rust fungus (*Phragmidium subsectileum*). This fungus attacks also wild Roses, and may often spread from these to the cultivated ones. The fungus passes the winter on fallen Rose leaves. It is therefore important to collect and burn all these as far as possible so as to prevent the possibility of new infection in spring. The first stage appears in spring in the form of orange masses of spores on the shoots, and at this season, at the end of April or during May further infection may be prevented by spraying with a rose red solution of potassium permanganate, a spray that may also be used as soon as any fresh outbreak is seen.

TREES AND SHRUBS.

CALIFORNIAN BUSH POPPY (T. S. C.).—Our correspondent must not cut down the plant until winter is passed. The safest plan is to leave the plant untouched till new shoots can be seen growing near the base of the plant in the new year and then to cut back the stems to these shoots. If grown in a sheltered place and treated in the way described the plant will soon increase in size in the Southern Counties.

THE GREENHOUSE.

CARNATION RUST ("Shandon").—To prevent rust in Carnations maintain a dry atmosphere and ventilate freely.

CHRYSANTHEMUMS, CARNATIONS AND BULBS IN A VINERY (P. H. H. M., Longfield).—The period during which our correspondent proposes heating the vinery to keep out frost would be from November till March. Almost the whole of this time the Vines should be at rest, and until they are started—forced—again only frost must be excluded and not any temperature maintained unduly to excite growth of Vines. The flowers named do not require much heat, just sufficient to expel moisture and frosts. The paraffin stove will answer the purpose if the wick is trimmed daily, fresh oil put in and, after lighting, duly regulated so that the wick does not emit smoke. The Vines will not be injured.

FRUIT GARDEN.

PLUM COE'S GOLDEN DROP (G. C. D.).—If our correspondent has space in which to plant a Victoria, bush or pyramid in form, within 10ft. or so of the trees of Golden Drop, the setting of the fruits of the latter will be assisted considerably by bees and insects. Judging from the description given, we think that the condition of the

roots could be improved. To this end a surface mulch of 4 pecks of fibrous loam and 1 peck of lime applied in November to each tree would prove very beneficial.

GRAPES UNSATISFACTORY (A. L. L., Mon.).—The trouble with the Grapes does not arise from the attack of fungi or insects, but from something wrong in cultivation. Probably the ventilation has not been consistently well looked after, and the border may not be in good order—well drained and properly supplied with water.

APPLE ELLISON'S ORANGE (H. C. G.).—Ellison's Orange is similar to Cox's Orange in both form and colour, also in regard to flavour. The tree succeeds where Cox's often fails to grow satisfactorily, making strong shoots. The cropping qualities, too are good. It is in season a month earlier than Cox's, but keeps well in average seasons. It is, undoubtedly, an Apple of high merit, but we think that there is room for both—the variety in question and Cox's, as the latter always sells well.

PEARS DISEASED (M. G., Hinksey Hill).—The disease of the Pears is caused by a fungus, not by a caterpillar. The fungus is *Fusicladium pirinum*, and the best treatment is to cut out all the shoots and spurs showing cracks in the bark or signs of disease during the winter and to spray the trees with Bordeaux mixture just before the buds burst and again after the petals fall.

MISCELLANEOUS.

SOUTH AFRICAN FRUIT ("Gardener," Chingford).—From the description given it is not possible to name the fruit with any degree of certainty, and in the absence of the fruit the best we can do is to suggest that it may be the Loquat or Japan Medlar (*Eriobotrya japonica*), although this is not a native of South Africa. As no doubt our correspondent realises, the phonetic spelling of a native name is often of very little guide as a clue. As the seedling develops it should be an easy matter to ascertain whether or not our guess is correct. The Loquat makes a handsome wall shrub and will grow well in any garden that is not very heavy.

ERADICATING PLANTAINS AND DAISIES FROM LAWN (A. W., Derby).—The Wickham Weed Eradicator will be found a handy implement to use for destroying coarse weeds on lawns. It can be charged with any good liquid weed killer and, if the spike is pushed well down into the rootstock, Plantains soon die. They can then be removed and the hole filled either with a piece of fresh turf or fine soil and sown with a pinch of grass seed.

BOOKS DEALING WITH ROSES (A. G. H., Barrow-in-Furness).—The history of the present-day Rose is well treated in "Roses: Their History, Development and Cultivation," by the Rev. J. H. Pemberton, and published by Longmans and Co. This work also deals with pests and diseases, but the most up-to-date information on these matters is to be found in a publication of the National Rose Society, which is issued free to all members subscribing 10s. 6d. and upwards.

VARIOUS QUESTIONS ("Summer").—When the leaves begin to fade and the stems to mature the latter should be cut down to within 6ins. of the ground in the case of Hollyhocks. If left outside during the winter, surround the stems with ashes. Hydrangeas may be grown outside, remaining in the open all the year round in Surrey. All runners—forming now—on Violets should be cut off forthwith. The surface soil must be loosened occasionally between the plants and decaying leaves removed. Take strong cuttings of the Violas and insert in sandy soil in a cool border or rough frame. The old plants will deteriorate, so young ones must be raised annually.

NAMES OF PLANTS.—K. M., Birkenhead.—Pyrus Aria, "White Beam"; "Torquay"; 1, Rose Mrs. Wemyss Quinn; 2, Rose G. Nabonnand; "Dinner"; Physostegia virginiana, False Dragon's Head; R. H. B., Fife.—*Taenosa mixta*; E. W., Luton.—1, *Cotyledon glauca*; 2, *C. Scheideckeri*; 3, *Sempervivum tabularium*; 4, *Cotyledon clavifolia*; 5, *Fuchsia triphylla*; 6, probably *Veronica Ingrami*, specimen poor; 7, *Veronica Andersonii variegata*; 8, *Begonia fuchsoides*.

NAMES OF FRUIT.—(F. M. J.).—Apples; 1, very much like Cellini; 2, unnamed seedling. If trees are raised from pits, the fruits are certain to differ from any known Apple.—T. S. C.—Apple Cellini—"Nagrom"—Apples; 1, Lord Saffell; 2, Wenester Pearmain; 3, immature, please send later; 4, Old Hawthornden; 5, Beauty of Stoke; 6, Bramley's Seedling; 7, Margil; 8, Tower of Glamis; 9, cannot identify; 10, Waltham Abbey Seedling; 11, Carville Rouge Pincee, specimen immature; 12, Pott's Seedling; 13, Striped Bocking; 14, Cellini.—E. S. S.—Apples; 1, Blenheim Orange; 2, Emperor Alexander; 3, Lady Beniker; 4, Sandringham; 5, probably Pearmain's Pippin, specimen malformed; 6, Bramley's Seedling, poor specimen.

CATALOGUES RECEIVED.

Messrs. Barbier et Cie., The Nurseries, Orleans, France.—Roses.
The Barnham Nurseries, Limited, Barnham Junction, Sussex.—Trees and Shrubs, Climbers, etc.
Messrs. Amos Perry, The Hardy Plant Farm, Enfield, Middlesex.—Hardy Plants and Bulbs.
Messrs. V. Lemoine et Fils, 136-142, Rue du Montet, Nancy, France.—Greenhouse Plants, Ferns and Hardy Plants.
Messrs. W. Seabrook and Sons, Limited, The Nurseries, Chelmsford.—Fruit and Rose Trees.
The Hampton Plant Company, New Malden, Surrey.—Rose Trees.
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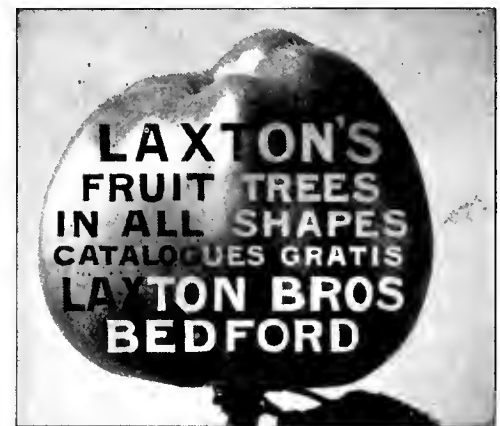
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DECORATIVE HARDY CRABS

WITH the possible exception of the Flowering Cherries, there is no group of flowering trees which is so valuable as that which embraces the various flowering and fruiting Crabs. The Crab Apple of our hedgerows, *Pyrus Malus*, is by no means destitute of beauty, but for the garden it has been quite surpassed by some of its varieties and hybrids. Of varieties the Red Astrachan Apple, P. M. var. *astracanica*, with a long, thin stalk and bloom-covered crimson fruits, and P. M. *pendula* (usually called Elise Rathke in gardens), handsome in flower and with yellow fruits, are probably the best, though many of the Cider Apples of commerce are well worth growing for their beauty of flower and fruit alone.

The true Siberian Crab, *Pyrus baccata*, is an exceedingly decorative tree, being handsome when in flower, but chiefly notable for the brilliant red globular fruits, the better part of an inch across and usually produced with the utmost prodigality.

Pyrus prunifolia, with more elongated fruits, which are crowned with the persistent calyx is, so *Bean* suggests, perhaps a hybrid between P. *Malus* and P. *baccata*; at any rate, its wild habitat is not known. Like the true Siberian Crab a somewhat variable plant, it is, as a rule, less effective than that species when in flower, but is very handsome when the fruits colour. There is a weeping variety (*pendula*), and several yellow fruited forms, most of which are quite pleasant eating. *Pyrus cerasifera* is a beautiful Crab: is said to be a cross between P. *prunifolia* and P. *baccata*. The fruits are purplish red and about the size of a Cherry and the tree is very handsome when in flower.

Pyrus Ringo is probably a hybrid, but was introduced to English gardens from Japan. This is quite the handsomest of the yellow-fruited Crabs and among the most conspicuous of yellow-fruited shrubs and trees. The flowers are blush when fully expanded, but the rosy buds are very effective.

Pyrus Scheideckeri is another of, doubtless, hybrid origin. It is alike remarkable for the profusion of its blossom and the vigour of its growth. The flowers are soft rose in colour and

the fruits, which are not usually produced very abundantly, are yellow. Closely allied to this is P. *floribunda*; indeed many authorities think that P. *Scheideckeri* has *floribunda* "blood." When in bud, or before many of the flowers are fully expanded, this is a very beautiful (and well known) tree. The expanded flowers are pale pink, fading off almost to white, but the unexpanded buds are a beautiful clear rosy red. The variety *atrosanguinea* is an improvement on the type, being richer in colouring though even here it is the bud colour which chiefly counts. The yellow

fruits are scantily produced and are scarcely ornamental.

With purplish rose flowers, red-purple fruits and purplish wood, *Pyrus Niedzwetzkyana* might well be called the Purple Crab. It appears to bear a similar relationship to the Crab Apple of our hedgerows to that borne to the Filbert (*Corylus maxima*) by the Purple Filbert—var. *purpurea*. However that may be, P. *Niedzwetzkyana* is a sufficiently beautiful tree, though one would hesitate to include it in a short list of ornamental flowering trees. *Pyrus Eleyi*, the flower of which was figured in THE GARDEN for May 25 last, page 240, is said to have been raised by crossing this species with P. *floribunda*. Its foliage and fruits have something of the purplish hue of P. *Niedzwetzkyana*, but it is much freer both in flower and fruit. The fruits are much smaller than in the purple parent, indeed they would easily pass muster as those of some variety of the Siberian Crab. *Pyrus Eleyi* seems destined to take its place as one of the indispensables of this valuable family.

Pyrus angustifolia is a quite interesting species not so often seen in gardens as it well might be. The flowers, which are very protusely borne, are pale pink fading almost to white. The double form more often seen in cultivation as P. *angustifolia flore pleno* is, according to *Bean*, really a double form of the closely allied P. *ioensis*, which is distinguished by its persistently woolly foliage.

Closely allied to these two species is P. *coronaria*—the American Crab—which comes from the eastern states of North America. The whitish flowers are freely produced and exceedingly fragrant—the scent is said to resemble that of Violets, but that is a matter of opinion. It is later flowering than most species, the blossom lasting usually well into June and additionally valuable on that account. The comparatively large fruits are greenish yellow and of little merit from any point of view. This is, for a Crab Apple, a large-growing species and a very valuable one, though not commonly seen in gardens.

The well named *Pyrus crataegifolia* is a shrub or small tree, very uncommon at present in this country. It blossoms in June when the pure white flowers are



THE PURPLISH CRIMSON FRUITS OF PYRUS ELEYI.



EARLIEST OF FLOWERING CRABS, PYRUS SCHEIDECKERI.



AN EFFECTIVE GROUPING OF PYRUS FLORIBUNDA.

exceedingly effective. The reddish fruits are not particularly attractive, being not unlike those of *P. floribunda*, but the foliage usually colours beautifully in autumn. This is one of the finest flowering shrubs for a small garden it is possible to imagine but, unfortunately, not easy to procure.

Pyrus Parkmanni, or to give it its proper name, *P. Halliana*, unlike the last mentioned is exceedingly common in gardens and nurseries but, in the writer's opinion, it is too largely planted. Somewhat in the way of *Pyrus floribunda*, but with flowers usually semi-double, it is more erect in habit and less free flowering than that admirable tree. It seems rather larger habited than *floribunda*.

The Oregon Crab, *P. rivularis*, is often listed by Continental nurserymen. It is an American species of no particular beauty or value. *Pyrus Toringo*, to which it is closely allied, has rosy flowers and resembles in many ways *P. floribunda* from which, however, it is readily distinguished by the very small (pea sized) fruits. The more recently introduced *P. Zumi*, with larger fruits bright red in colour, may perhaps prove a valuable garden tree. The flowers are pale pink. *P. Sargentii*, more recently introduced still, forms a low shrub—not more than 3ft. or so high—smothered in spring with pure white flowers, followed by globular fruits which are bright red when ripe.

Pyrus spectabilis is one of the most worthy of Crabs grown for beauty of flower, but the yellowish fruits are not attractive. This species grows into a tree of some size, much larger than *P. floribunda* for instance, which species it resembles as regards flower colour, though the individual flowers are larger. There is a semi-double variety—*flore pleno*—which perhaps retains its colour a little better, but the typical form is, as Crab Apples go, particularly long-lasting in flower.

The Sikkim Crab, *Pyrus sikkimensis*, is rarely seen in Britain outside botanic gardens. It forms an admirable small tree, valuable both for its abundant white blossom and rather pear-shaped dark red fruits which, in the quantity it produces them, are exceedingly showy. Undoubtedly closely allied to the true Siberian Crab, it is quite distinct as a garden tree and indeed much more refined.

There are several hybrid fruiting Crabs of great value for garden decoration of which the origin is uncertain and which can hardly be referred to any one species. One of the best of these is *Transparent*, of which the fruits when quite ripe become more or less translucent. Their colour is yellow with a bright red flush on the sunny side. John Downie, with apple-like fruits sometimes 2ins. across, is perhaps the finest of all both as regards flavour and appearance. The tree is, naturally, handsomest when roped with fruits, but the individual fruits are then considerably smaller. The colouring is a bright, if pale, orange with a scarlet cheek. Other unclassified varieties include *Dartmouth*, with crimson fruits covered with purplish bloom; *Fairy*, yellow and crimson; *Orange*, clear soft yellow; and *Transendent*, yellow and rosy-red.

The fruits of almost all these Crabs have an economic value for jelly making, but most of them are mainly grown as ornamental trees and shrubs. They are not particular as to soil so long as their root-run is sweet and not too poor. Taking them for all in all, they succeed best on rather lighter loams than those which would be considered ideal for an Apple orchard, but any soil not deficient in lime will, if thoroughly cultivated, suit them quite well.

Many people think it a pity that the Apple family, previously considered a separate genus—*Malus*—should now be combined with the totally dissimilar White Beams, Service Trees and Rowans, the Pears and a couple of smaller, less known groups, to form the huge genus *Pyrus*. It is certainly very confusing to the average amateur gardener.

MICHAELMAS DAISIES

No longer garden Cinderellas, thanks to "Ballard, Beckett and Co."—Cinderellas do not look well overdressed—Notes on Beauties at the Autumn Shows—About "withering."

MICHAELMAS DAISIES are slowly but surely worming their way into the autumn garden. The triumvirate of Sunflower, Dahlia and Chrysanthemum no longer has it all its own way. At last—advisedly I say *at last*—this stranger from North America has found some good friends like Mr. Beckett and Mr. Ballard, who have waved their wands of selection and hybridisation over its ancient colourings and habits, with the result that it can no longer be denied an honoured place in the autumn Paradise of the Wise. There have been writers who have doubted the appropriateness of the surname for a family whose flowering extends from soon after Lammas right on to Martinmas; just as I would question the appropriateness of the suggested alternative, Starwort, for except in acris I can see no particular resemblance in their shapes, sizes and colours to the stars of heaven beyond that of an endless number of other flowers. But if I must discuss names, I would like some time or other to go into the history of Novæ-Angliæ and Novi-Belgii and find out why—if it was not pure chance—these branches of the family were so christened. Anything that concerns what I think I may without hesitation call its most important garden section must be of interest. One had only to look at the beautiful exhibits of Mr. Ernest Ballard, Mr. H. J. Jones of Lewisham, Mr. Amos Perry and Mr. Wells at the R. H. S. Autumn Show to see how the Novi-Belgii section eclipses all others. These others, though, are also very lovely, and have many devoted admirers.

The award of merit given on the same occasion to a Novæ-Angliæ—Barr's Pink—was a gentle reminder that it is so. Barr and Sons were among the first to give a prominent place in their herbaceous catalogue to Michaelmas Daisies, which is the soulless trade equivalent to an individual's tender place in his heart. I was glad to see they are still on the *qui vive* for good things. What a contrast this vase was to that of Little Boy Blue from Mr. Ballard, a new and low-growing variety with enough deep purple-blue ray florets to make it a so-called double. It, too, received an award. It is one of the popular Novi-Belgii section, which I cannot help sighing over, as the "advances" which are being made are too iconoclastic by far to please me. A multitude of petals (?) and horrible distorted centres are ill exchanges for the quite-all-right ray florets and the smart, well defined centres of Attraction

and Climax. I fear, however, we gardening folk are a somewhat novelty-ridden crowd, and that anything that is new is apt to appeal to us in a way that is often out of all proportion to its intrinsic merits. This is why some of the good old stagers drop out.

I have had the very great pleasure this year of seeing two exhibits of Mr. Ernest Ballard's in London. One on September 19 at the R.H.S. Hall and the other at the big Autumn Show on October 3. What, however, pleased me more than seeing the flowers was seeing the man



THE NEW ASTER, "CORDI-BELGII" PIONEER.

himself; and again what pleased even better still was hearing what he said about distorted centres and doubles; and lastly, and best of all, to find that he is bent on seeing it new and probably untried crosses will not give us something quite out of the ordinary. I saw a vase of a delightful pink graceful variety tucked away behind others in his R.H.S. Hall exhibit. It is well named Pioneer, for it is the result of a cross between cordifolius and a Novi-Belgii. Mr. Ballard thinks he has broken entirely new ground. Whether he has or no, he has given us something very nice, something that reminds me of that exquisite variety which seems also to have cordifolius blood in its veins and which is named after Mr. Ballard's rival, Edwin Beckett. I happen to have two Becketts in my collection, both good, as of course any Michaelmas Daisy bearing such a name should be, but one quite out of the ordinary in

its light, graceful habit and delicately poised flowers of the very palest lavender. Mr. Ballard's group at the Holland Park Rink was one of the features of the Show. It was not very large, but all the flowers were fresh-looking and good. All the varieties, or very nearly all, were his own raising, and among the very best "looking fine" were the semi-single pale mauve Queen of Colwall and the deep red-purple Purple Emperor with its rather spidery-looking petals. Frankly, I was disappointed with the quantity of Michaelmas Daisies at the Show. I expected to find far more than there were. I knew, for example, that Mr. H. J. Jones of Lewisham intended to "lick creation" in the group he would put up. When I asked him why he had not done so, he laconically replied, "The weather." Nevertheless, there were a number of fine varieties scattered here and there in the different groups. Among those which appealed to me were the following: Rycroft Pink, a good example of a rose Novæ-Angliæ; Kate Bloomfield (raised by Mr. F. G. Wood), another Novæ-Angliæ with somewhat small blooms of an exceptionally clear and bright rose, several shades brighter than Barr's Pink and, I thought, more attractive in a bunch; Rev. Charles Lunn, also in Mr. F. G. Wood's group, a beautiful soft blue-purple Novi-Belgii; Cattleya, a semi-double of a very attractive shade of mauvy pink, a variety which I find I noted when I visited Mr. H. J. Jones at his garden at Flower House, Lewisham, and which is certainly one of the most popular ones in my own collection at Whitewell; Harold Reuthe (raised by Mr. Reuthe), one of the best rose pinks that I have seen, with its flowers arranged after the fashion of the beautiful Louvam; Sam Banham, one of the best whites, but I feel it is rather a libel on Climax to describe it as a snow white edition of what I am very much disposed to think is the best Aster ever raised; General Léman, a most attractive rose with considerably less blue in it than there is in the rose of Mons (this last named was everywhere, whereas I only noted one solitary vase of the brighter and better General; Mrs. Bowman, noteworthy on account of its orange centre and deep purple ray florets or, as one so often for convenience calls them, petals; Grey Lady, for those who like such spidery-petalled forms as Miss Eisle, a gem with its pale soft pink tinted lavender flowers; Advance, a good example of an Amellus (if we may include the section under Michaelmas Daisies) of the colour of the well known King George; and Rapture, a good pink.

Before I close I want to draw attention to a strange withering of the foliage, which seemingly may take place at any period of a plant's growth and which picks and chooses its plants without any visible rhyme or reason, as the victims are necessarily never all together. I am told that Wisley has said that it is no disease, and this view of the matter is supported by what we find in the "Garden Doctor," by Mr. Chittenden, who is the head of the R.H.S. Gardens at Wisley. Under the head of Aster the only ill noted to which the family is heir is the beastly fungus Erysiphe cichoracearum (mildew). Disease or no disease, one wants to avoid it if possible. Can any readers who have experienced it throw any light upon its cause or cure? It has never appeared here until this year, when I bought a number of plants from four different sources to make up my collection, which now numbers about 125 varieties. Mildew I have known in previous years, but it has never been so bad as in the present. There was no sign of it until a spell of cold, windy and wet weather came in the early part of September. By timely spraying with a mildew wash it has been kept in check, but here and there are plants on which it has had

no effect. It is doubtless the result of their different constitutional susceptibilities. This is a curious fact. The Michaelmas Daisies are grown in three different parts of the garden. In two the

plants have been "well done," in the third they have been half starved—at least that is what they look like—and the rooting medium is on the dry side. Here there is not a speck of mildew. Is

it misplaced kindness to do Michaelmas Daisies very well? When one's plants go wrong it is small consolation to think one lives in the spraying age of gardening.
JOSEPH JACOB.

ROUND ABOUT A WOODLAND GARDEN.

THERE is no more delightful season in a woodland garden than those few weeks which come between the autumnal equinox and the leaf-fall of the Oaks. It is not only a season in which one may enjoy the colour splendours of waning foliage and ripening fruit, but one in which Nature, claiming a brief indulgence in her ancient prerogative of untidiness, demands to be left alone. At any rate, if there is any of that inherent laziness in the gardener, which is the common heritage of man, it is during the good month of corn and wine and oil that he is most liable to be affected by it. So we gladly (when we may) accede to Nature's mandate, roll up our blue aprons, and listen to the Broom pods snapping in the sun. It is possible in such a moment to watch the brown leaf sink softly as a curled feather in the still air without rushing for a besom, to hear a tiny rustle in the herbage of the bank without thinking of a mouse trap, for it is Nature's armistice and ours. If we have no blue apron to roll up, we can always grow one of those beards which a considerable section of the daily Press seemed to think were not the least entertaining of the exhibits at the Holland Park Show the other day.

It so happens that a dry, sunny spell having set in after the drenching of the later summer, there are more flowers in our October garden than is usual at this season. The Heaths have carried on exceptionally well, and among those which are of special merit just now the Dorset Heath, *Erica ciliaris*, must take a foremost place. The very large clear rose purple bells and the soft, grey-green of the elegant foliage combine to give an irresistibly charming effect. *E. Stuartii*, a hybrid discovered in Ireland, with small white bells distinctly tipped with vivid carmine, is even better than it was a month ago. *E. stricta*, naturally a late bloomer, is of course at its best and always distinctive. While most of the *E. vulgaris* (Calluna) clan rigidly adhere to their proper season, the dark-foliaged, deep crimson *Alporti* will usually give some colour throughout the autumn; and another form which is always later in coming into flower than the rest of its class and which is now a mass of colour is *E. v. var. aurea*. Though not a choice species, *E. scoparia* is useful for late autumn flowering, and in passing I may mention that there is a dwarf and prostrate form of this Heath which, as a close-set foliage plant of a peculiarly striking moss green, suggests possibilities in woodland plantings. I saw this recently at Kew and made a note of it.

Lyranthus empetriformis can generally be relied upon to flower at the "back-end," and it

is now bearing a good crop of blossom; but perhaps the most attractive of all the peat-loving plants in bloom is *Polygala Chamabuxus*. This grows and spreads in large, dense mats, and would always flower abundantly in our woodland loam were the mice less fond of its blossom buds. But it so

common shrub, not very effective in flower, but excellent in leaf colour is *Ribes aureum*. There are some first-rate varieties of this Currant, but a well grown bush of the type is not to be despised when every leaf is stained a brilliant vinous crimson for, perhaps, six weeks or more.

Few autumn flowers can be grouped with such pleasing results in open woodland as *Montbretias*. Their range of colouring is now so wide that one may select almost any shade from pale yellow to deepest orange or bronzy vermilion, and they will always be in harmony with their surroundings. Groups set in creeping Ivy or other herbage have been established here for years, and though the flowers would doubtless be finer and more plentiful under more orthodox treatment, they could hardly fulfil their purpose better. Enough is sometimes better than a feast in this matter. So much might also be said of *Antholyza*. I can raise no enthusiasm for "Aunt Eliza" as an individual, but "distance lends enchantment," and the October sun and a woodland setting does the rest. Both *Montbretia* and *Antholyza* are worthy successors to the *Alströmerias* in this woodland planting, the last in the sunniest places. The Kafir Lily, which, like *Montbretia*, is apt to demand too much space and attention when in the border, is also admirable in such situations. It does best perhaps in grass, and very seldom needs



PURPLE FRUITS AND RED-PURPLE FOLIAGE OF *VITIS VINIFERA PURPUREA*.

happens that this year one patch has been left untouched, with the result that the low mound of myrtle green leaves is bristling with pea-shaped flowers in the rose purple and yellow of the variety *purpurea* and the ivory and yellow "butterflies" of the type. The even more delightful P. C. var. *Vayrede* planted two years ago is, however, still nursing a grudge. But one must be patient with these things.

The very keen yellow of the tall, upright *Genista tinctoria* against the fiery hues of an Azalea bank seem to strike a somewhat harsh note at this season. Individually the plant is attractive and welcome enough, but its shrill charlock yellow suggests spring rather than autumn. *Spartium junceum*, still as full of flower as ever, just escapes the sulphur tint, but even it is better away from the mellow hues of autumn foliage plants. Mention of Azalea reminds me that someone in a recent issue of *THE GARDEN* regretted the disappearance from our gardens of the old yellow Honeysuckle Azalea (*A. pontica*), but I am happy to feel that we still have a quantity of this true and easily grown old shrub. In range and splendour of leaf-colouring *A. pontica* has few rivals. The best (selected) forms are admirable in colour and size of blossom, and the species is well worth growing for its fragrance alone. Another

any attention if one is not too exacting as regards quantity and size of flower-spikes.

A bush of *Abelia chinensis* in full flower at this season is a cheerful object, and if it does look rather spring-like and bridal in its apple blossom pinky white there is enough bronze and ruddy crimson about it to harmonise with the prevailing tints of the hour. So, too, with *Papaver rnpitragum*, whose delicate green leaves seem to belong to any other season than this; but when this handsome Poppy, which seeds freely in sun or half-shade, opens its large apricot blossoms nothing could be more in sympathy with its surroundings, and never does it look quite so handsome as it does to-day. Under some Hollies, now laden with berries changing to orange, and about the roots of old Oaks hardy *Cyclamens* of various kinds give gay patches of rose pink; while along the waterside, *Omphalodes cappadocica* and *O. nitida* are making worthy efforts to equal the spring display of their incomparable blue. Some forms of *Gentiana asclepiadea* in dark blue, light blue and pure white, with arching stems from 18 ins. to 3 ft. in length are also here, nor can one overlook the gorgeous colour afforded by the autumn foliage of *Paeonia albiflora grandiflora*, which for nearly two months has gradually changed from a uniform beetroot purple glossed with bronze

to rich crimson and so on to scarlet. But even this splendid thing cannot excel the glory of that excellent little Vine, *Vitis vinifera purpurea*, which is here so planted that it will be between us and the evening sun. In such a position the plum-coloured foliage will be lit with a blood crimson of amazing depth and brilliance, an effect which can otherwise never be enjoyed.

Anemone japonica is always a reliable stand-by in the autumn border, but not all of its kind are really satisfactory for the wild garden. Some are too weak in the legs, some seem too cold for association with the glowing splendours of the hour. *A. j. crispifolia* (Lady Gilmour), with curiously crimped leaves and single, wine-stained flowers, is one of the most satisfying here, and a good word must be said for an old rift, semi-double variety in crimson-purple, a very pest in the wrong place, but admirable in the right one. "Grassy" plants, a broad and loose term

embracing everything from the big Bamboos downwards, are seldom so attractive as they are in the autumn garden, for there is a whispering softness about them that just seems to fit the mood of the moment when the little gossamer spiders are teaching us that to them at any rate "gliding" is no novelty. What, for example, can be more in sympathy with the spirit and colour of the woodland than a broad clump of *Apera arundinacea* whose countless blades of ruddy gold are veiled with the graciously curved seed-bearing panicles all shimmering with crimson and bronze and iridescent light? It is the last word in elegance, refinement and harmony, just as the hot torches of the *Kniphofias* are the last and fiercest word in the glow of autumn's embers. The ill-at-ease man may calm his fretful soul by a gentle contemplation of the one, he may warm his hands at the other, and thank the god of gardens for both.

A. T. J.

FRUIT TREES FOR ORNAMENT

Properly used, Apple, Pear, Plum and Cherry will serve to help the garden picture.

THE use of fruit trees in the garden calls for a certain amount of imagination if their full decorative value is to be utilised in the garden scheme. On the one hand, most fruit trees are exceedingly beautiful when in blossom and again when in fruit, while some, notably Pears and Cherries, are valuable for their autumn colour; on the other, with some exceptions, they are the reverse of decorative for a great part of the year.

Such trees as the Almond, the Sweet Chestnut, the Mulberry, the Blackthorn, the Cherry Plum and its purple variety (*P. cerasifera* Pissardi,) the Pomegranate, the Loquat, many sorts of coloured Crabs and, perhaps, the Walnut are principally grown in this country as ornamental trees. Some excel in beauty of bark, growth and foliage, some of flower, while with some the fruit

itself is the main attraction. Among shrubby fruits the Japanese Wineberry, *Rubus phoenicolasius*, and the Parsley-leaved Blackberry, *R. laciniatus*, are also largely utilised for their decorative effect. The purple-leaved Filbert, *Corylus maxima atropurpurea*, is largely cultivated for the sake of its appearance, but the green Filberts, many of which crop so heavily, are very effective when planted to form an alley roof, or raft, wide. They are really beautiful when bare of foliage, their wonderful twiggy being seen to greatest advantage when outlined in hoar-frost on a winter's morning. The summer shade they afford seems exactly to suit such shade-loving bulbous plants as *Erythronium*, *Cyclamen* and *Narcissus moschatus*.

The value and disposition of the various Crab Apples provides matter for a separate article,

and the use of the other ornamental trees mentioned is sufficiently understood, except, indeed, that it may be well to set down that the Purple Plum is much more effective when grouped than a commonly seen dotted here and there in single specimens. The Wineberry is emphatically a specimen plant, as when several are planted together one loses the grace of the elegantly arching golden-spined young canes. The Parsley-leaved Blackberry is commonly used for training on pergola or trellis. It answers for either purpose, but shows to best advantage when allowed to mound itself over shrubs of lesser worth in shrubbery or wild garden.

The main object of these notes, however, is to consider the use which may properly be made of the more humdrum fruits which no garden worthy of the name should be without—Apples, Pears, Plums and Cherries. Raspberries, Gooseberries, Black Currants and Strawberries are hopeless from a decorative point of view, so of them there is nothing to write. Red and White Currants and Peaches have some decorative value mainly on walls.

The standard Apple is a beautiful tree, especially when mature, and in small gardens it might well be employed in the parts of the garden which are, as a rule, entirely devoted to purely ornamental trees, shrubs and plants. That in such a position it is more difficult to keep the trees clear from insect and fungoid pests is usually considered axiomatic, but in actual fact such trees are often much cleaner than those grown together in an orchard, especially if the latter are somewhat neglected, which in private gardens—at least when judged by the standard of the commercial fruit-grower—they are apt to be. Still the arrangement is only suggested for gardens where space is very limited and in which no separate quarters can be devoted to hardy fruits.

From a practical standpoint the culture of Apples on pyramid or bush trees is to be commended. Where it is desired to use this fruit to help the effect of the general garden scheme, it is wiser to rely on standards, cordons and espaliers. Magnificent pyramids such as are to be seen at Gravetye certainly have a real decorative value, but there are few to-day prepared to devote the labour necessary to produce trees such as these. The grass orchard planted with standard trees is one of the most picturesque features of the countryside, and one that, with forethought, can almost always be used advantageously in the garden scheme. The lines of trees should run approximately north and south to allow the greatest possible amount of sunlight to reach the buds. Cross vistas from east to west are, however, easily arranged for, and he must indeed be an ignoramus at garden planning who cannot arrange avenues of fruit trees to define in part some of his vistas.

The grass orchard provides an admirable site for naturalising bulbs, particularly *Narcissus*, in turf, while around the trees where the soil should be kept turf and weed free, *Primroses*, preferably the wild one, and *Winter Aconites* will flourish. The writer well remembers a crop of Shirley Poppies around the butts of the trees in a fairly young orchard. The ashes from a garden bonfire had been spread upon this orchard. Evidently Poppy seed from plants thrown upon the heap for destruction had, being heavy, fallen through into the ashes and, strangely enough, escaped destruction. These self-sown Poppies—could one call them that?—were the finest the writer has ever had the good fortune to behold, and they looked singularly well placed there. Vistas which finish in "thin air" are never satisfactory unless defined by trees of such size as to form a natural cathedral. Some solid, preferably evergreen planting should be arranged to close



STANDARD CHERRIES IN BLOSSOM.

them, and in some situations room for this planting will have to be provided when laying out the orchard.

Pear trees of vigorous habit, such as the Catillac or Pitnaston Duchess, are so handsome all the year round, but especially when in flower and again before the fall of the leaf, that they should always be placed where they readily come under notice. Either might well be used as screen trees, for their rapidity of growth is very considerable. All Pears which are suitable for orchard culture are handsome, and they provide considerable variety of habit. Some of those the writer has tried successfully as standard trees on a fairly light and warm soil are, in addition to those

already mentioned, Williams's Bou Chretien, Jargonelle, Beurre Diez, Petite Marguerite, Conference and Durondeau.

Cordon and espalier Pears and Apples are of great value for a number of purposes. They might well be used to far greater extent than they are at present to cover the walls of buildings. To utilise such walls for the growth of choice shrubs which would not in our climate succeed elsewhere is understandable and praiseworthy, but to smother them wholesale with such common climbers as Irish Ivy and Virginia Creeper is worse than waste of valuable room.

Espalier trees (or cordons if preferred) form a very suitable backing for the flower borders

which nowadays often bound the principal paths in the kitchen garden. Cordon trees may be utilised to form a very handsome fruit pergola, though the fruit pergola need not be confined to such. Loganberries, Blackberries, Red and White Currants, even Gooseberries, may be pressed into service, and be at once useful and ornamental. The decorative value of Cherries, whether on orchard standards or on trained trees, needs no emphasising, but their special worth for planting on north walls cannot too often be reiterated. This fitness for a wall with a cold exposure is not confined to the Morello; it applies to the generality of eating Cherries. Red Currants, too, answer in such a position.

MIXED "FARE" AT VINCENT SQUARE

FOLLOWING so closely upon the great Autumn Show at the Holland Park Hall, many visitors were agreeably surprised to find so fine a display at Vincent Square on October 17. The hall was well filled with a great variety of interesting exhibits, chiefly of hardy flowers, though there were several interesting collections of fruit. Messrs. G. G. Whitelegg and Co. had some dishes of splendid Apples and Pears. The former included such valuable sorts as Cox's Orange Pippin, Allington Pippin, King of the Pippins, Royal Snow, Ben's Red, Peasgood's Nonsuch and Branley's Seedling, all admirable in size and colouring. Among the Pears there were dishes of Doyenne du Comice, Pitnaston Duchess and Beurre Clargéau. Boxes

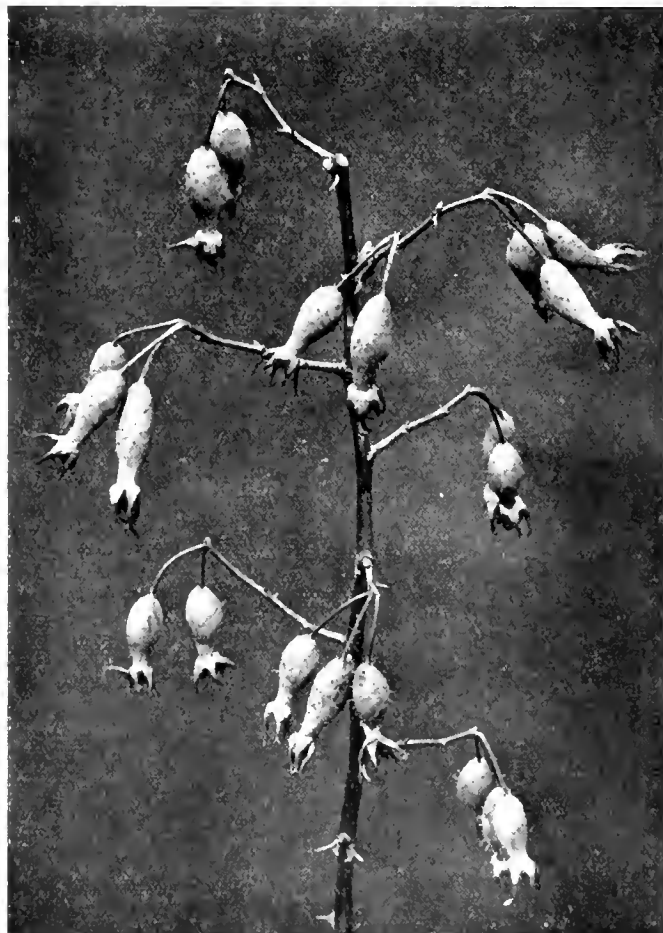
of Apples as sent to market and of splendid appearance were shown by Mr. G. Trinder, Guildford Fruit Farm, while Messrs. Laxton Brothers had Laxton's Superb and Lord Lambourne, their two new Apples, whose appearance is a strong recommendation. Golden Hornet, a prolific, perpetual bearing, large golden Raspberry, shown by Mr. G. Trinder, attracted a deal of attention. It received an award of merit last year. According to the official list of awards posted in the vestibule, Lady Margaret Bickersteth, Cottingham House, Yorks, was awarded a card of cultural commendation for Sultan's Grapes, but search and enquiry failed to discover them.

Chief among the flowers were Chrysanthemums, and for these, associated with Sunflowers and

Michaelmas Daisies, in an imposing group Mr. H. J. Jones received his fifth R.H.S. gold medal of the year. Among the Chrysanthemums Red Almirante was of dazzling colour, even brighter than Verona. October Glow is a bright orange-scarlet variety that went well with Harvester. Another showy variety was Ethel Blades with deep crimson sprays, in the collection of Messrs. W. Wells and Co. This with the yellow Mrs. A. Thomson and Goucher's Crimson appeared to have been cut from the open ground. Their large Japanese blooms of Viscount Chinda (the new golden yellow), James Stredwick and the rich crimson Mrs. G. Monro were splendid. Those who prefer disbudded sprays found plenty to choose from in a large display by Messrs. K.



THE APTLY NAMED CARNATION TANGERINE.



ALMOST SCARLET FRUITS OF ROSA FARGESII.

Luxford and Co., who had such sorts as Countess (white), Goldfinch, Bouquet Rose, Nathalie (a single of rose terra-cotta colouring) and Mrs. M. Field (which is a deeper-coloured Normandic). Mr. Yandall of Maidenhead had a very bright and attractive group, Lichfield Purple, which was well shewn in this collection, is a beautiful shade of this somewhat uncommon colour in Chrysanthemums.

There was the usual quota of Orchids, and greenhouse plants were chiefly represented by Carnations and Sutton's graceful Lloydii type of Begonia. This latter is a very elegant, free-flowering strain which produces plenty of double and semi-double, pendulous flowers in a variety of colours. The plants are quite easily raised from seed and do well in a cool greenhouse. There did not seem to be any new varieties among the collections of Carnations. Messrs. Stuart Low and Co. shew their large White Pearl regularly and in quantity, which points to its being a free-flowering variety. The Allwoodii, too, seem to be as free-flowering and attractive in autumn as at midsummer.

Roses are becoming a trifle smaller, but, except for this, one might have imagined it to be August rather than October when inspecting such collections as those arranged by Mr. Elisha J. Hicks, Mr. G. Prince, Messrs. D. Prior and Son and the Rev. J. H. Pemberton, for all the blooms were beautifully fresh and of good colour.

It is only in a few places that frosts have checked the flowering of the Dahlias, so there were quite good displays by such growers as Mr. J. T. West, Messrs. J. Cheal and Sons and Mr. C. Turner. As at the Holland Park Hall Show, it was the small Paony-flowered sorts that were the most attractive. Winter Sun, Sweetness, Olive and Our Annie are excellent examples.

General border flowers included some very good Delphiniums, Lupins and Kniphofias in a large collection by Messrs. John Waterer, Sons and Crisp. Just inside the door the tall, snowy white plumes of Pampas Grass in the group by Mr. F. G. Wood immediately attracted attention and drew the eye to the bold plumes of the purple-tinted species Cortaderia Kermesiana, which is also very attractive as a large clump near the Temperate House at Kew. Messrs. B. Ladhams continue to stage their tall Lobelia hybrids in great variety. Of the bright-coloured sorts Queen Victoria, B. Ladhams and magnificans were perhaps the best, while the pink variety Mrs. Humbert is attractive. They all produce flowering stems quite 3ft. high, and have a long flowering period.

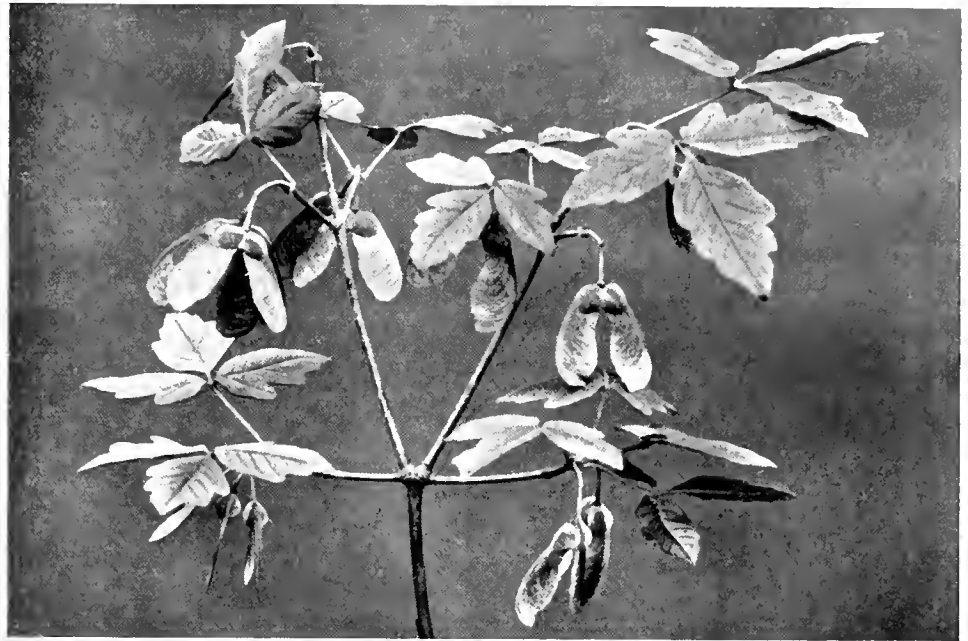
Vivid autumn colour was provided by the branches of Quercus rubra and Pyrus discolor in a collection by Messrs. J. Cheal and Sons. They also had a little group of New Zealand shrubs, including graceful Pittosporums and the deep blue shrubby Veronica Autumn Glory. Messrs. Skelton and Kirby had vivid sprays of Berberis Thunbergii and Crataegus Crus-galli.

Messrs. Barr's Nerines attracted the attention of lovers of graceful greenhouse bulbs. The cut spikes of the beautiful pink varieties, Jupiter and Miss Jekyll, with the glowing scarlets and crimson of Scintilla, Carolus and Vivid were especially good. Opinion seemed divided concerning the large plants of the hybrids Aurora and Hero, which bore exceptionally stout spikes of pink flowers. They were so tall as to give almost the impression that they were pink Agapanthus.

NEW AND RARE PLANTS.

Acer griseum.—This delightful Maple was introduced from Central China in 1901 by Mr. L. H. Wilson when he was travelling for Messrs.

James Veitch and Sons, and he says that mature trees have a very striking appearance when the peeling bark hangs down in large flakes, disclosing the fresh orange-coloured skin beneath. The tree from which the branch on view was cut is 18ft. high and has not yet reached that condition, but it is exceedingly beautiful by reason of the glorious intense crimson colour of the small, toothed, trifoliate leaves, which are borne in pairs on downy stalks. This fine down is also present on the undersides of the leaves, and there



BRILLIANTLY COLOURED FOLIAGE AND KEYS OF ACER GRISEUM.

is a denser brown tomentum on the seed keys. It becomes a deciduous tree up to 40ft. in height, and when better known will be greatly valued for its autumnal colour. Award of merit to Mr. C. J. Lucas.

Carnation Tangerine.—This is a very distinct Perpetual-flowering variety. The deep yellow ground and rosy stripes give the general appearance of rich salmon buff. It is a well formed flower, but there is no perfume. Award of merit to Messrs. Keith Luxford and Co.

Chrysanthemum Viscount Chinda.—A rich golden yellow Japanese variety of first exhibition size. The broad, drooping florets have an incurving tendency, and there is plenty of substance in them, so the blooms should continue fresh for a long time. First-class certificate of the National Chrysanthemum Society to Messrs. W. Wells and Co.

Chrysanthemum Godfrey's Triumph.—This name was given to an exhibition Japanese variety of rich colouring about a quarter of a century ago. For a long time it was very popular, but in the fulness of time was superseded by other sorts, though none had quite the same colouring. Now the name has been revived for a large, many-petalled single variety. The blooms have several rows of stout petals, which are slightly rolled at the edges and incurve at the tips. Award of merit to Messrs. J. Godfrey and Son.

Euonymus europæus Aldenhamensis.—This Spindle Tree differs from the type in being exceptionally fruitful and, perhaps, in the fleshy seed covering (the aril) being a trifle brighter. The branch of the type bought by the exhibitor for comparison was a wretched staving—a travesty of one of our most beautiful autumn trees. The

variety under notice is well worth growing on account of its exceptional freedom in fruiting. Award of merit to the Hon. Vicary Gibbs.

Gladiolus Oakfield.—A very handsome spike was shewn of this Priminius seedling, which approximates to the large hybrids. The well disposed blooms are not hooded, but have somewhat reflexed margins. It is of delightful warm rose pink colour, and the lower segments are spotted with the same colour on a pale yellow ground. We understand that this variety was raised from

seed sown early this year, and that the plant was of branching habit and fully 4ft. high. Shewn by Messrs. Lowe and Gibson.

Rosa Fargesii.—This is one of the most beautiful species in the autumn, when the long, bottle-shaped fruits have their rich crimson colour. The hips are lightly furnished with stoutish, dark spines. Among the extensive collection of Rose species near the Pagoda at Kew this species stands out, at present, as the most decorative of them all. Award of merit to Mr. J. C. Allgrove.

Brasso-Cattleya J. G. Macdonald, Langley Variety.—The reason for the tag on to the name of this gorgeous Orchid is not apparent and renders it very clumsy. However, it is a most beautiful bloom of large size and rich mauve colour, deeper on the lip, which is marked with orange. Award of merit to Messrs. Flory and Black.

Lælio-Cattleya St. George Variety Victory.—Another charming Orchid with a cumbersome name. The sepals of the very large flowers are of very pale, sparkling mauve colour, while, in almost startling contrast, the large lip is of rich velvety crimson shade. Award of merit to Messrs. Stuart Low and Co.

Miltonia spectabilis extraria.—For a time the Committee doubted the correctness of the generic title, but finally agreed that it was a Miltonia. The delicate, pale ivory white sepals are somewhat reflexed, and there is rosy purple marking on the lip. A most uncommon Miltonia. Award of merit to Messrs. Sander and Co.

Odontoglossum St. George var. solum.—A good spike of well formed flowers freely marked with chocolate maroon on a white ground, and with a golden crest. Award of merit to Messrs. J. and A. McBean.

SURPRISE GROUPINGS OF BULBS

THE element of surprise is always exciting and generally pleasing. To-day opportunity is knocking at our doors in the form of various small bulbs which may be used to tuck in here and there to form "unexpected" pictures in the flower garden. Wake your imagination and let it flutter round your garden, be it ever so small, and I will warrant that your journey shall not have been in vain and that the garden will be the richer by many and many an unexpected surprise picture that will peep out in the spring days, when you had all but forgotten the wee bulbs you buried.

Here is a large piece of rock at the corner of a pathway on the north side of which are two tufts of the wonderful Shooting Star of America (*Dodocatheon*). No sunshine ever burns their roots, and every spring they push out their little tufts of leaves, from the centre of which, before May has passed, springs a stalk carrying a tuft of rose or white or purple flowers. Beneath that Mock Orange bush the ground is filled with tubers of *Anemone apennina*, which never fail to carpet the earth, before the shrub puts on its leaves, with a mass of stary blue flowers equalled by nothing else. I cannot explain how that clump of *Allium Ostrowskianum* became allied with the white garden Lily, but there it is, and the "unexpectedness," when it pushes up its large umbels of reddish purple in early spring, is so charming that I would not move it for worlds. It is so safe, too, for everyone knows that the Madonna Lily must not be disturbed, and so the *Allium* is protected from destruction by a careless wielder of the spade.

The old Rose arches were becoming insecure, and "struts" had to be put in to secure them against winter storms, and these provided just the little home where wee bulbs would be secure, for, analogous with the case of the Lily, no one ever digs right up against a support, and so a safe harbour and ideal homes exist for small tufts of chequered Snakesheads, *Brodireas*, *Cyclamens*, *Muscari*, etc. There they grow and increase, taking nothing from their neighbours, secure and safe themselves, and contributing many and many a dainty surprise to visitor and owner alike.

Then, too, there are the alternate and combination plantings—altogether "unexpected" except to those very familiar with the garden. Possibly I ought to explain the terms more in detail. What do I mean by an "alternate" planting? Well, let us suppose two kinds of bulbs, say, Winter Aconite and Blue Muscari. These are planted in equal mixture alternately, so that early in the year, when winter has scarce relaxed its grip, there is a little patch of vivid gold, cushioned in flat, much-divided green foliage, while, considerably later, another flower picture is presented on the same space of ground by the stiffly up-standing spikes of blue Grape Hyacinths. "Combination" planting is a variation of this. Two kinds of bulbs are used and planted in a precisely similar way, but chosen so that flowering synchronises. Thus the golden Jonquil would be seen intermingled with the white Star of Bethlehem.

Close against the edge of a gravel path is another good "unexpected" bulb home, and I know a garden where, each February and March, every inch of pathway is outlined in gold, purple, mauve or white Crocuses. A gorgeous sight indeed! where on sunny days bees in myriads hold happy revelry.

To my mind the "unexpected" bulbs which peep out from edge and corner and, in general, the surprise features of any garden are the ones

that linger long in memory and get the biggest welcome when they appear. The days that are coming are the great opportunity offered us to

create for ourselves studied "unexpected" little bulb-groupings that shall endure for—who can say how long? H. W. CANNING-WRIGHT.

THE KING OF THE ALPS

ERITRICHUM NANUM is what our Alpine climbers call "the King of the Alps" and what we, Roman-Swiss, call Blue Moss ("La Mousse bleue"). It grows on the highest altitudes, from 5,000ft. to 8,000ft., on granitic or limestone rocks, always in full sun and in dry positions. It is one of those plants everyone would like to have in their garden but with which very few can succeed. I saw some, however, twenty years ago, beautifully flowered by my late friend, Mr. Charles Ellis, at Frencham Hall in pans in a cold house, and I know some English amateurs who succeed with it very well. It even sometimes reproduces itself freely on their rockeries, but how rare are these successes! At Edinburgh Botanic Gardens Professor Sir Isaac Bayley Balfour shewed me once nice examples seemingly very healthy, and on the west coast it is here and there luxuriant in walls or rockwork. It dislikes stagnant moisture, however, and rots off very easily; hence it is wise in some wet localities to protect it with a sheet of glass. Here at Floraire we tried it in several places—in the wall, on the rockery, in pans, in Sphagnum and in pure sand. Best of all was the culture in a peat bed, as shewn in the accompanying picture. We have here what we

flowering as freely as they do in Nature. But they were growing in a cool greenhouse or frame. At Hindhead in Surrey Dr. Jenkin grows things like *Saxifraga bryoides* and *S. retusa*, *Androsace pyrenaica*, and *A.A. glacialis* and *argentea*, *Tulaspi rotundifolia*, *Azalea procumbens*, *Phyteuma hemisphaericum*, *Gentiana bavarica* and *G. verna*, *Phyteuma comosum*, *Anemone vernalis* and *A. sulphurea* in a cold frame with a sunny exposure as well, I thought, when I saw them last May, as on our Alps.

After all, I think that the best means of growing and succeeding with *Eritrichium nanum* in the British climate is to grow it in a wall or cliff facing south and to keep it dry—even very dry in winter—and to grow it in a poor soil.

The Alpen King is not such a rare plant as people generally are apt to think. I saw it last summer in the Maritime Alps above Nice in such abundance and luxuriance that at first sight I could hardly believe it was not a dwarf species of *Forget-me-not* (*Myosotis alpestris*). There it was at an altitude of more than 8,000ft. and only on primitive rocks; but in the Champorcher Valley (Vallée d'Aosta) it grows on the chalk at a height not exceeding 6,000ft., and is beautiful in colour and health. The plant grows all over the Alpine



ERITRICHUM NANUM IN THE "TOURBIERE" AT FLORAIRE.

call a *tourbière*, the base of which is irrigated by running water, the top being a bed of peat which drinks up the water, absorbing it according to the needs of the plants. In such a way the plant is never exposed to danger of rotting off, as it is watered from below and water is never spilt upon the plant. But that method of culture, good for our Continental climate, is useless for the damp climate of England. There it is necessary to struggle against excessive humidity by exposing the plant to the full sun to produce active transpiration. I saw in Yorkshire, at Scampston Hall, the most delicate and tender alpinists (*Pyrola uniflora*, *Androsace argentea*, etc.) growing and

chain, always on dry cliffs, in full sunshine, and in the purest light of the high Alps. In the Western Caucasus it ascends to 9,000ft., and is very abundant. A friend of mine brought me once from the highest summits of the Cordillera in North America some dried specimens of *Eritrichium* saying that the plant was very abundant there. The specimens were, in fact, of a very near species of *Eritrichium*, called *argenteum*, and given by Clements (see "Clements' Rock Mountain Flowers," page 119, and plate 21, Fig. 8) quite wrongly as an annual, since the plants I had in my hands were very old ones. HENRY CORREYON.

CORRESPONDENCE

THE TWELVE BEST SHRUBS.

MR. G. HARVEY'S suggestion is an interesting one, and lends itself to correspondence, but would it not be preferable to ask for a list of the twelve best hardy flowering trees or shrubs? It is difficult to differentiate between trees and shrubs, e.g., some might say the bole of a *Eucryphia* makes it a tree. I know one quite 24 ins. in circumference! Again, I do not see the object in the plants listed being "suitable for massing." Few people lay out really good groups, and some shrubs are most effective as individual plants. Some of the groups at Kew and the Arnold Arboretum are good, but space and selected plants are both necessary to get the best results.—SENEX.

[Probably most readers will agree with "Senex's" suggestion that value for massing is not essential in a shrub, especially in a large one, but perhaps our original correspondent was anxious to compile a list of the twelve best shrubs for massing! We must all agree with "Senex" that it is exceedingly difficult to draw a dividing line between flowering trees and shrubs, but we imagine our correspondent wished to exclude such things as *Laburnums* and *Robinias*, which grow to a considerable size. May we hope that "Senex" (a recognised authority) will send us his own ideas as to the twelve best flowering shrubs.—ED.]

THE correspondence on the twelve best shrubs is very interesting if only for its wide differences of opinion. I quite believe that if twenty experts were asked to name the twelve best shrubs we should find they had at least 100 among them. I like a yellow Rose, therefore Golden Emblem is a better Rose than Red Letter Day! For some years it has been part of my duties to shew visitors round a fairly extensive and up to date collection of shrubs, and it has been one of my chief aims to get their opinions on the various plants and also my order book shews very strong opinion for the following twelve: *Eucryphia pinnatifolia*, *Tricuspidaria lanceolata*, *Embothrium coccineum*, *Ceanothus floribundus*, *Olearia semidentata*, *Desfontainia spinosa*, *Erica australis*, *Cytisus Donard Seedling*, *Osmanthus Delavayi*, *Veronica Gauntletti*, *Leptospermum Chapmanii* and *Berberis Pratii*. These are closely followed by *Rhododendron Ascot Brilliant*, *Philadelphus Virginal*, *Rosa Moyesii*, *Viburnum Carlesii*, *Escallonia Donard Seedling*, *Forsythia suspensa*, *Cotoneaster bullata* and *Pieris formosa*. Now with this collection I should expect quickly to bump with the person who has lime, with the one that registers over 20° of frost, and with the one whose garden could not afford plants that would get very big. So we seem to be driven to the conclusion that there are no such things as the twelve best shrubs, for what would be a gem in Cornwall would be a farce in Manchester—handsome is as handsome does.—W SLINGER (of the Donard Nursery Company).

IN accordance with the suggestion that readers of THE GARDEN should give their views on this subject (page 507), I am sending you a list of the dozen shrubs which would be my choice were I to be limited to this number. Perhaps there is nothing out of the ordinary in the selection, but all are decorative, and all have been found hardy in a West of England garden on the side of a hill with a slope to the west but badly exposed to easterly winds. I have intentionally omitted shrubs with special soil requirements, such as *Rhododendrons*, and I have not included *Roses*, which to my mind are not in place in a mixed shrubbery, but had I to name one I should

vote for the beautiful Chinese *R. Moyesii*, as much for its splendid hips as for its blood-red flowers. The following is my list: *Lilac Mme. Lemoine*, *Spiraea Anthony Waterer*, *S. arguta*, *Ceanothus Gloire de Versailles*, *Berberis Darwinii*, *B. stenophylla*, *Deutzia crenata*, *Buddleia globosa*, *Leycesteria formosa*, *Forsythia suspensa*, *Cistus ladaniferus* and *Solanum crispum*.—R. E. H.

AS your correspondent remarks (page 507), it is no easy matter to make a selection of twelve good flowering shrubs, especially when these must be suitable for a light loamy soil. I agree with you, Mr. Editor, that *Eucryphia pinnatifolia* should most certainly be one of the twelve. My vote is given for the following eleven shrubs in addition: *Magnolia stellata*, *Deutzia crenata fl. pl.*, *Ceanothus Gloire de Versailles*, the Mexican Orange (*Choisya ternata*), the Pearl

vitifolium should be in all gardens, either in the open or on a west wall. It is difficult to leave out the flowering Crabs, Plums, Cherries and Azaleas.—TIM.

A NOTEWORTHY KNIPHOFIA.

THERE is a certain amount of magic in the word "garden." It sounds quite as stimulating to a real devotee as "rats" to a terror. So I thought when I saw the wonderful setting of brilliant flame-like flowers of *Kniphofia corallina* in full flower quite recently. The picture I send is by permission of Mr. J. Bradshaw, of The Grange, Southgate, where this most beautiful hybrid (*Macowanii* × *aloides*) has been in flower since July, successively throwing up its perfectly erect, brilliant coral red flower-scapes. It will continue until severe frost. It is evident that *Kniphofias* are deservedly becoming more popular, providing as they do charming effects during the dull days of autumn and early winter, especially if undisturbed and allowed to form clumps.



MASSSED SPIKES OF KNIPHOFIA CORALLINA.

Bush (*Exochorda grandiflora*), *Pieris floribunda*, two *Berberis*, *B. Darwinii* and *B. stenophylla*, a small group of *Rhododendron* *Doncaster*, *Spiraea aristata* and *Escallonia macrantha*.—ROBERT H. JEFFERS, *Edinburgh*

IN reply to Mr. G. Harvey (page 507), I beg to enumerate what I consider a very desirable dozen. They are: (1) *Rhododendron campylocarpum*, pale yellow; *R. Loderi*, white; or *R. Thomsoni*, crimson—according to colour. Pink Pearl is nowhere with these masterpieces of Nature. (2) *Rosa Hugonis*, yellow; *R. altaica*, pale yellow; or *R. Moyesii*, superb crimson—according to colour; (3) *Buddleia globosa*; (4) *Cytisus scoparius Andréanus*; (5) *Eucryphia pinnatifolia*; (6) *Halesia carolina*; (7) *Magnolia parviflora*, *M. stellata* or *M. Lennei*; (8) *Syringa Souvenir de L. Spath*; (9) *Ceanothus Gloire de Versailles*; (10) *Philadelphus Virginal*; (11) *Escallonia Edinburgh*; (12) *Berberis Darwinii*. For a south wall *Chimonanthus fragrans*, and for a few dwarf shrubs *Viburnum Carlesii*, *Daphne Cneorum*, *Pentstemon Scouleri*, *Philadelphus microlepis* and *Azalea rosa-flora*. *Abutilon*

Kniphofias thrive best in a deep rich sandy loam, well drained and, if possible, on a raised bed where the drainage can be assured. Its grass-like foliage and flower-scapes are seen to advantage when planted in the foreground of a shrubbery border. Planting is best done either in spring or very early in autumn.—W. LOGAN.

COOKING SWEET CORN.

I THINK, possibly, the enclosed note on the cooking of Indian Corn may be interesting to your readers. The information is given to me by a Mr. Starr Truscott of the Navy Department, Bureau of Aeronautics, Washington, who told me that his mother knew more about the proper cooking of Indian Corn than any lady in the States.

"The most difficult thing is to determine just when the ear of Corn is ripe for plucking. Usually this may be known by the fact that the silky tassel at the tip of the ear is brown and dry, and the ear when grasped firmly feels solid and not cushiony. If the husk be stripped back for a short distance to expose a narrow strip of the grains on the ear, the grains should show completely filled out and

plump. If pressed by the tip of the fingernail, the skin should break easily and a milky juice appear. When the grain is tough under this test, the best stage for eating has passed. If the husk is pulled back and the grains found immature, simply straighten it back and wait.

"When ripe break the whole ear from the stalk by grasping it firmly and breaking the ear stem near the ear. Remove the husk and the fine 'silk' which lies along the grains.

"Use a rather deep kettle if possible. Place at the bottom a pad made of the inner layers of the husks. This should hold the ears, when placed on it, about 3 ins. up from the bottom. After putting the ears in, pour in boiling water until it just touches the lowest ears. Cover the kettle and boil for fifteen minutes to twenty minutes according to size of ears. (Small ears like Golden Bantam should take about fifteen minutes.) It

years old, and has never been known to do so before.—(Miss) E. GIFFARD, *Mont au Prêtre, Jersey, C.I.*

[The fruiting of *Akebia quinata* in Britain has been recorded from time to time, especially in the Southern and Western Counties, but it is far from common. The fruits are greyish violet in colour, cylindrical in form, with rounded heads, not, dissimilar, in fact, to those of some of the so-called Egg Plants (*Solanum Melongena*).—ED.]

AN ENGLISH THISTLE.

THE accompanying illustration is of *Cirsium eriophorum*, Scop, sub sp. *anglicum*, Petrak. It may be interesting to mention in these columns that the Woolly-headed Thistle of England (it does not grow in Scotland or Ireland) has been designated sub species *anglicum* by Dr. Petrak of Czecho-Slovakia in his Monograph of the genus.



THE UNCOMMON ENGLISH THISTLE, *CIRSIUM ERIOPHORUM* VAR. *ANGLICUM*.

will be noted that the process is really steaming, and a steamer may be used if available.

"There have been many ways proposed to make the method of eating more elegant, but all good Americans who really like Sweet Corn prefer to eat it 'from the cob.' This means simply 'gnawing' the grains off the cob, holding the ear by the ends. A little butter with salt and pepper spread on the ear at the point of attack makes the dish complete. The grains may also be separated from the cob by slicing them off with a knife, collecting them on a plate. This produces a dish resembling the American 'canned corn.'"—PETER R. BARR.

UNCOMMON FRUITS

THE pretty Japanese climber *Akebia quinata* grows and flowers very well here. This year, owing doubtless to last summer's abnormal sunshine, one branch that has grown away from the main plant (made very bushy by constant cutting back) has fruited, and the fruit shows every sign of ripening. Is this fruiting unusual? I should be very glad to hear of other cases of this climber fruiting. The plant I am writing of is over thirty

By special request I collected and dried a large number of specimens of this very prickly and handsome Thistle for the "*Cirsiothea*" which Professor Petrak has been forming, and which in due course will be distributed. The photograph is one of several taken on August 21 on a steep slope of rough pasture resting on Lower Lias between Bristol and Bath, where the plant is very abundant, as it is sometimes on similar ground in other parts of Somerset, but it is absent from Devon and Cornwall. The root-leaves form very handsome rosettes, and some of the largest leaves were just 3 ft. in length. The Thistle is biennial. H. STUART THOMPSON.

EUONYMUS JAPONICUS FLOWERING.

I AM unaware if it has been put on record that the common fleshy-leaved *Euonymus* of gardens, and especially of seaside gardens and promenades, has flowered profusely this year. Several of my friends in different parts of Southern England have had a similar experience with myself not having previously observed it in blossom. I have seen many bushes in flower or bud about Bristol, in Dorset and at Minehead.—H. S. T.

TRIALS OF NEW ROSES

Foreign Introductions of 1920.

THE new foreign Roses of 1920 bear little comparison with those produced in this country so far as can be ascertained from one year's trial. There are a few novelties and others are worth watching for the result of another year, but on the whole very few of them are likely to find their way to official recognition here.

Cornelia (H.T., Robert Scott and Son).—A clean medium grower with nice foliage, but the blooms are not satisfactory, being white, diffused with pink, and rather flat. A free bloomer, however.

Evrard Ketten (H.T., Ketten Frères).—Not a vigorous grower. A carmine red resembling Laurent Carle in colour, with the same failing of turning blue on maturity. Its best point is its fragrance—the good old red rose scent, and plenty of it.

F. L. de Voogt (H.T., J. Timmermans).—Strong, erect grower, with good trusses of thin yellowish pink blooms. A free bloomer.

Geisha (Pernetiana, G. A. von Rossem).—Yet another sport of Mme. E. Herriot, the growth being exactly similar. The blooms are flat and deep sulphur yellow in colour, but they hang their heads just as their parent. Sweet scented.

Glory of Steinfurth (H.T., Schultheis).—Origin Frau Karl Drusehki General McArthur. The growth resembles the former, but is not so strong. The blooms are large, deep pink in colour, and with the scent of General McArthur.

Irene Bonnet (Climbing H. T., G. Nabonnand).—This has not bloomed here yet, but has made good growth. It is described as being rose pink in colour and fragrant.

Jacotte (Wichuriana, Barbier et Cie).—This also has not yet bloomed, but growth is excellent. Described as a hybrid of *Rosa Wichuriana* × *A. R. Goodwin*, and coppery salmon in colour.

Juan Quevado (H.T., M. Leenders and Co.).—Fair growth. Very pale yellow blooms, with deeper centre. Not a good shape; too flat, but very sweetly scented.

Julia Bartet (Pernetiana, Barbier et Cie).—A moderate grower with big trusses of bright yellow blooms. Type of Mme. E. Herriot, but the blooms come small, and there are already plenty of bigger and better varieties on the market.

La Joconde (Pernetiana, J. Croibier et Fils).—A sport of *A. R. Goodwin*. Very weak grower, with small yellowish blooms edged pink. Sweet scented, but not a free bloomer.

La Rosee (Dwarf Polyantha, E. Turbat et Cie).—This is quite a novelty, and a good one. The growth is excellent, a continuous bloomer, the second crop being out before the first blooms were over. Light sulphur yellow blooms, the backs and edges of petals splashed red almost like a picotee edge. A distinct variety and worth growing.

Le Loiret (Dwarf Polyantha, E. Turbat et Cie).—An erect-growing and strong Dwarf Polyantha. Bright rose-red blooms in dainty—not heavy—trusses.

Limburgia (H.T., M. Leenders and Co.).—A strong grower, very similar to *J. L. Mock* in shape and colour. A "too-much-alike" variety.

Lodewijk Opdebeck (H.T., M. Leenders and Co.).—Very weak and thin growth. Red blooms which turn blue, and a very shy bloomer, too.

Mme. P. Doithier (H.T., C. Chambard).—Also a weak grower and a late bloomer. Resembles Mme. Abel Chatenay, but the blooms are flatter

Mme. Pizay (H.T., C. Chambard).—Erect grower. Blush pink blooms, cup shaped, but they get dirty. An undesirable new Rose.

Mme. Victor Rault (H.T., J. Croibier et Fils).—A good grower, erect and with heavy trusses of bloom. The latter are yellowish pink colour, globular in shape. A promising bedding Rose, with good foliage and a free bloomer.

Marie Lunnemann (H.T., J. Timmermans).—Origin, Pharisæer × Laurent Carle. Medium grower, but fairly erect. Blush pink blooms—nothing striking.

Merveille des Jaunes (Dwarf Polyantha, E. Turbat et Cie).—Not a strong grower. The blooms are rather unique in colour—copper with bright red edges, opening out reddish copper. The colour, however, washes out in wet weather. Small clusters of bloom, not heavy heads. Worth trying.

Mevrouw C. van Marwyk Kooy (H.T., M. Leenders and Co.).—Were it needed, the name of this Rose would prevent its ever becoming popular. An erect, moderate grower. Large white blooms slightly tinted blush.

Paul Lafont (H.T., P. Guillot).—A thin grower, but promising. Blooms are white with a deep yellow centre. Worth trying another season.

Pilgrim (H.T., A. Montgomery).—Not a strong grower. This variety also resembles J. L. Mock, but blooms are not so heavy. Sweet scented.

President Poincare (H.T., Grand Roseraies du Val de la Loire).—Origin Caroline Testout. Dora van Tets. Strong grower, with small globular blooms, deep pink with darker centres.

Souvenir de Claudius Denoyel (H.T., C. Chambard).—Origin Château de Clos Vougeot. Mme. Jules Gravereaux. The growth is good, but blooms are poor. Deep red and very flat.

Souvenir de Claudius Pernet (Pernetiana, Pernet Ducher).—Very strong and upright grower, with excellent foliage. Large bright yellow blooms of good shape. Sweet scented and a free bloomer. Quite one of the best of M. Pernet Ducher's productions.

Souvenir de Gilbert Nabonnand (Tea, G. Nabonnand).—The only new Tea Rose of the year. A good grower. Small blooms, deep yellowish cream colour, edged with red. Good foliage and sweetly scented. A free bloomer.

Souvenir de Mme. Augustine Gillot (Pernetiana, F. Gillot).—Origin Frau Karl Druschki. Lyon Rose. Very vigorous grower, but should rather be described as a Hybrid Perpetual than a Pernetiana, for the growth resembles its Druschki parent. Pale pink blooms, big enough for exhibition.

Souvenir de Mme. Morin Latune (H.T., P. Bernaix).—Thin, erect growth. Blooms resemble Ophelia, being light salmon with deeper centre, and good shape.

Victor Teschendorff (H.T., Ebeling).—Origin Frau Karl Druschki × Mrs. Aaron Ward. Medium growth, but excellent blooms, resembling Florence Forrester. An exhibitor's Rose.

Violincelliste Albert Foures (H.T., J. Croibier et Fils).—Strong, erect growth, with big trusses. Deep orange-coloured blooms of Mme. Ravary type. A good Rose for massing in a bed. Sweetly scented.

William Thompson (Dwarf Polyantha, M. Leenders and Co.).—Good growth and clean foliage. Large bright pink blooms, but they turn blue. An unwanted variety.

Of the bedding Roses undoubtedly the best is Souvenir de Claudius Pernet. Some of the others may improve upon acquaintance, but many of them will expect little further recognition or even remembrance.

In one direction, namely, the production of new Dwarf Polyantha Roses, our foreign friends

seem to excel, and there is still room for additions, especially in real yellow varieties.

The only new Tea Rose of the year 1920 is a foreign production, but it is unfortunate that it is not a more worthy specimen of its race.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Asparagus.—As soon as the growths are well matured they may be cut down, and the beds and alleys cleared finally of weeds for the autumn. Should it be the practice to use farmyard manure on the beds at this season, it should be so well decayed that it can be lightly pricked into the surface, for it is not a good plan heavily to top-dress the beds during the winter months, as it tends to keep them cold. Take the opportunity at this time, unless the alleys are still occupied with catch crops of other vegetables, to dig them well, using plenty of manure, as some of the fine rich soil thus made will be excellent dressing for the beds in the spring. The digging of the ground is also very beneficial as an aid to good drainage for the beds, an important point in successful Asparagus cultivation.

Salads.—Where there is a constant demand for these at all seasons, it is absolutely necessary to devote a number of cold frames to keep up late autumn, winter and early spring supplies. Given a favourable season and a warm soil, the supply of Lettuces and Radishes may be fairly easily arranged outside until December, but it is an uncertain yield later without frames of some sort. Any large plants of Lettuce and Endive growing in open positions where it is not convenient to give skeleton frame protection should be carefully lifted with good balls of soil and be accommodated where a covering can be given as necessary. Continue the blanching of batches of Endive as requirements demand either by the use of inverted pots outside or by removing the plants to a Mushroom-house or cellar. Mustard and Cress should be sown in heat every ten or twelve days, allowing the Cress about three days longer for development than the Mustard.

The Flower Garden.

Bulbs.—The planting of Tulips and Hyacinths may be done as early in November as convenient. They are both admirably fitted for mixed planting, also for associating with other spring-flowering plants, particularly Forget-me-nots, Arabis and Silene, each of these making an effective ground-work as a setting for their bulbous associates. In making a selection of Tulips and Hyacinths for the chief beds and borders it is better to select, as far as possible, varieties of proved merit. As a general rule those Tulips catalogued as bedders are more extensively used than the Darwins, but the latter should also be largely used when the spring beds are to be kept gay as long as possible. As an example a border of blue Myosotis may be interplanted with Queen of Pinks, or Proserpine perhaps, also with Clara Butt or Baronne de la Tonnyaye. The use of the Darwins will give the Forget-me-nots an added charm for several weeks longer than when only the so-called bedding Tulips are used. In the preparation of the soil for the bulbs avoid using new manure; burnt refuse and bone-meal are both good. Unless the soil is cold and retentive, Tulips and Hyacinths require from 4ins. to 6ins. of soil on top of the bulbs, while the distance from each other may be anything from 6ins. to 12ins., according to the nature of the groundwork and effect desired.

The Hardy Fruit Garden.

Top-Dressing.—The operation of top-dressing Peaches and Nectarines, although perhaps not often carried out, may sometimes be done with much advantage. It may be that the trees have carried quite satisfactory crops but show signs of exhaustion in some way or other, or the fruit may perhaps have hardly realised anticipations. In either case a good top-dressing will prove beneficial, inasmuch as the increased vigour given by aiding the development of fibrous roots by the top-dressing will greatly assist to maintain the trees in a continued state of fruitfulness. Before putting the new soil into position loosen some of the old surface soil carefully with a fork, removing a little of it at the same time; then lightly prick up the under surface, as this will

enable the roots to get a quicker grip of the new compost and also allow of the new soil being firmed into position better. A suitable top-dressing should be chiefly good loam to which has been added some wood-ash, old mortar rubble and some bone-meal at the rate of a 6in. potful of the latter to each barrowful of loam, and an 8in. one of wood-ash and a good shovelful of rubble. Get the work done as soon as possible so that the new roots can get a good hold of the soil before winter, and if the weather be dry give a good watering to resettle the whole.

Oxley. HERBERT L. WETLERN.

H. TURNER
(Gardener to the Duke of Northumberland).
Atbury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

General Work.—The clearing away of spent crops should receive close attention, as it is neither good for the ground to be carrying decaying vegetation, nor yet does it tend towards tidiness. Therefore have all Cabbage, Cauliflower and Turnip leaves placed in the rot-pit, where in time they will turn into useful manure. The haulm of Potatoes, Peas and Beans is best burned, as is also much of the other spent material in the garden, the ashes of such being rich in potash and proving a valuable fertiliser. These ashes are well worth taking care of, and should be stored under cover or used at once where digging operations are in progress. Take the opportunity during dry weather to wheel manure on to the ground that has been cleared so that the work of digging and trenching may be proceeded with during favourable weather.

Leeks.—Draw the soil slightly up towards the plants and thus assist the blanching process. This is particularly desirable for late lots which were not planted so deep as those for the principal crop.

Autumn-Planted Cabbage.—The excessive wet experienced in northern gardens during the last two months has been against the welfare of this crop, many blanks having been caused by the ravages of slugs. Make good the losses and run the hoe through between the lines; this aerates the soil and checks the growth of weeds.

Brussels Sprouts.—Remove all decaying foliage from the plants and encourage a healthy growth so that firm Sprouts of high quality may result.

Onions that have been ripened thoroughly may now be stored in quarters where they will keep in good condition during the winter. The value of medium-sized Onions has been further exemplified this season, being more easily ripened and keeping in usable condition longer than those of larger size.

Fruit Under Glass.

The Orchard-House.—All pot fruits will now have been cleared of their crops, but the trees must in no way be neglected in regard to moisture at the roots. Much of the trouble in regard to the dropping off of the buds may be traced to neglect in watering at this time. Keep the syringe going freely until the leaves fall, as this helps to keep insect pests in check. Allow full ventilation both night and day.

Pot Vines that have been standing out of doors should now be pruned back to the desired length and placed in a cool house until required for forcing. Dress the wounds with styptic.

Late Grapes should now be of sufficient ripeness to allow of artificial heat being considerably reduced, maintaining only enough warmth in the pipes as will keep the atmosphere in a buoyant condition and damp from condensing on the berries. This will ensure the bunches keeping in good condition. The danger is that, should too much fire-heat be used, the berries will shrivel. During fine weather air may be admitted freely, reducing it to a chink at night. The bunches must be examined regularly at this time and any decayed berries removed at once.

Promptitude in regard to this will often prevent the loss of the whole bunch.

The Flower Garden.

Bedding Plants.—Boxes containing cuttings of bedding Geraniums should now be placed under glass. If moderately heated pits are not available, they may meantime be placed in vineries from which the fruit has been cut. Pick off all the dead leaves before housing and allow plenty of space to keep the plants from becoming drawn. Ageratums, Heliotropes, Lobelias and Cupheas require rather warmer quarters, as they suffer readily from damp.

Planting Roses.—Where it is intended to plant Roses this autumn the ground should be prepared without delay. As the plants are not likely to be disturbed for several years, the soil should receive a generous preparation. The most suitable soil for Roses is a rich loam. Light, sandy or gravelly soils are not so suitable, but may be improved by taking out a quantity of the natural soil and adding good rich heavy loam. When trenching the ground dig in plenty of well rotted farmyard manure, but do not allow the roots to come into immediate contact with it when planting. Roses may be planted during favourable weather at any time from now onwards to the end of March, but from the last week in October till the end of November is best.

JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

GREENHOUSE AND CONSERVATORY.

Hardy Shrubs for Forcing.—There are a large number of beautiful hardy shrubs that are most useful for furnishing the conservatory during the spring months. Many of them can be purchased specially prepared for forcing, such as pot-grown Lilacs. Others, such as Azaleas, Rhododendrons, Pyruses, Prunuses, Kerria japonica, Spiraea van Houttei and *S. prunifolia* var. fl. pl., to mention a few, can be lifted from the open ground at this time, and if placed in pots and tubs may in due course be successfully used for forcing. Instead of throwing the plants away, as is too commonly done after forcing, most of them can be used for a number of years. If they are planted out in the reserve garden for two years to recover and by using them in rotation one can have a regular supply each year. While it may be necessary to purchase some plants, there are others that can easily be propagated by means of cuttings, *Deutzia gracilis*, for example, and *Forsythia suspensa*, but the best *Forsythia* for this purpose is *F. intermedia* var. *spectabilis*, which with slight heat can be had in flower just after Christmas. This plant produces deep golden yellow flowers in wonderful profusion, and in an ordinary conservatory keeps in good condition for several weeks. A forced plant affords a ready means of propagation, as the young soft shoots root very readily. This also applies to many other shrubby plants used for this purpose. Azaleas and Rhododendrons with their restricted root system are well adapted for forcing, as it is a fairly easy matter to get them into moderate-sized pots. When using Azaleas and Rhododendrons for this purpose preference should be given to such varieties as naturally flower early, as they, of course, respond more readily to forcing. *Rosa Mundi* is a dwarf free-flowering variety that may be had in flower by Christmas; while *R. praecox*, often cut by frost outdoors, is very charming for indoor work. The latter plant is very free-flowering, and I have frequently forced this species for three and four years in succession. *R. Prince Camille de Rohan* is also good; in fact, most of the hybrids with caucasian blood in them force readily. Pink Pearl and the newer Alice are also excellent for pot work. Rhododendron *Kaempferi* in a number of beautiful varieties is excellent for forcing, and it is surprising that this plant has been so long neglected for this purpose.

Viburnum Carlesii is very charming for the conservatory, its fragrant flowers coming pure white when grown indoors. It will not stand hard forcing, and is best brought on in a warm greenhouse temperature. It is also best pot grown, as it seems to resent too much disturbance at the root. Purchased plants are usually worked on the common *Viburnum*, and a sharp outlook should be kept for suckers which prove very troublesome. It is easily rooted by means of soft young shoots.

Wistaria sinensis is a beautiful plant for the conservatory, and is best when established in pots. Like the *Viburnum*, it must not be given too much heat, or else all the buds will drop off. One of the secrets of successful forcing is

gradually to accustom the plants to a high temperature, introducing them too suddenly usually ends in failure, although Lilacs and Azaleas will stand high temperatures with impunity; but, of course, they do not stand so well as when brought on under cooler conditions. After the plants are potted up they should be stood outdoors until such time as they are required, protecting the pots from frost by means of hay or ashes.

Funkia grandiflora, although hardy in warm situations, is usually so late in flowering that most seasons it gets cut with frost. For this reason it is well worth growing in pots for the unheated greenhouse. If grown in 8 in. or 10 in. pots it forms a handsome specimen with its large ornamental

foliage and beautiful white, sweet-scented flowers. *Funkia tardiflora* is another late-flowering species which is well worth growing in pots for a cool house. It is a neat-growing plant and produces its purplish-coloured flowers in great profusion.

Zonal Pelargoniums.—Although these plants may be had in flower more or less all the year round, they are never more valuable than when in flower during the winter months. At this time it is essential that they be given a light, airy position in the greenhouse and not be overwatered, as damp is fatal to them. As a dry atmosphere must be maintained, it is necessary to have some heat in the pipes during the night and during dull days.

J. COUTTS.
Royal Botanic Gardens, Kew.

OTHER PEOPLE'S TREES

IT often occurs to me how beautiful other people's trees are. Anybody's or everybody's trees are subjected to scrutiny, admired and noted mentally, without invidious feeling and without the owner being aware of it. I have examined the minutiae of all of them at one time or other and can recognise most of the species at a distance without handling a leaf. Some of them I can diagnose at a mile away and others at lesser distances, so that I never become a nuisance to anybody and no one has to cut down anything to prevent himself from being overlooked by the sightseer. The trees are a source of delight no matter to whom they belong, and under those circumstances they are as much mine as the air I breathe. I can use the latter, view the trees and enjoy them; and the lord of the manor himself cannot do more. I once heard of a servant who walked out into the grounds of his master, sat down upon a seat and imagined himself the owner of the place, but was disillusioned when he went home to breakfast. He was not a domestic, but lived in a separate house on the estate, which made the contrast seem the greater.

All are aware of the splendid assortment of trees available, but they are best represented in the tree nursery or the botanic garden. Except in the large private garden it is impossible to

accommodate a tithe of the trees actually in the country, so that the selection for gardens generally has several limiting factors. Space is limited, the trees must be easy to grow, and few being specialists, people seldom attempt searching for rare trees. Such as they grow they have made the objects of their choice, and their selections may be regarded as an index of their affections in the arboreal world. It is always a pleasure to see more and more really handsome trees getting outside the nursery and the botanic garden. Many of them are of ancient introduction, highly ornamental, easy to grow and therefore popular, which is the reason why they have outlasted hundreds of other introductions.

Of more showy or conspicuous trees the first to commence flowering are the Almonds, of which there are several colours. Flowering takes place in February or March. From that time onwards the flowering trees expand their blossoms in succession like a panorama to the eye of those who walk abroad at frequent intervals or view it from the top of a motor 'bus or any other vehicle. The Purple-leaved Plum usually opens its snowy blossoms in March before the bad weather has gone, so that frost or rain may spoil them and so prevent the production of the Cherry Plums, which are excellent for preserving. The display, even if short-lived, is delightful. The profusion



ALMONDS IN BLOSSOM IN KEW GARDENS.

of blossom of *Pyrus floribunda*, *P. f. atrosanguinea* and *P. f. purpurea* cannot fail to arrest attention, and all are finest or deepest in colour when the buds are half expanded. The fruits set well in some seasons, and the tiny crabs are highly ornamental in autumn. Few of the fruiting Crabs are more ornamental than John Downie, the fruits becoming showy in late summer.

During their season nothing is finer than the double Cherries, and first place may be given to the double Gean (*Prunus Avium flore pleno*), every branch of which becomes covered with a mass of the purest white flowers, which last a long time in perfection. The Gean is a British tree, and the double one has been in cultivation for about two hundred years. The double Morello Cherry with the small green heart is less showy, though a beautiful and smaller tree. The most popular of the Japanese Cherries is *P. serrulata flore pleno*, with large double pale rose flowers, this being the oldest and best known introduction.

The darkest and finest of a large group are James H. Veitch and Hisakura, with large deep rose pink flowers. The Rose-bud Cherry (*P. pendula*) cannot be overlooked, for the deep rose, half-opened buds at the end of March are very striking on the umbrella-shaped tree. The Bird Cherry (*P. Padus*) and its small-flowered variety (*P. P. parviflora*) have been fine this year, as usual, and attracted the eye by reason of their long racemes of white flowers, drooping in the former and erect in the latter.

In April or early May the large white flowers of *Magnolia Soulangeana* easily take pride of place in many gardens. It is the most popular *Magnolia* in Europe, because it flowers freely and escapes frost when *M. conspicua* may get injured by flowering earlier. The paler *M. Alexandrina* is a less common tree. The evergreen *M. grandiflora* blooms all the summer and autumn, but many growers get impatient for it to reach the flowering stage. This could be overcome by selecting *M. g. exoniensis*, which blooms at an earlier age.

The Lilacs make a short-lived display in drouthy seasons like last spring, and commence the display with the old white *Syringa vulgaris alba*, followed by the ordinary Lilac and then others in great variety, of which the deep purple *Souvenir de Louis Späth* is the finest of the dark purple varieties. The best varieties, single and double, are not so well represented as they might be.

The Hawthorns or Mays are a host in themselves, but the most popular of all and the best is Paul's Double Scarlet Thorn, which was put into commerce by the late Mr. George Paul about seventy years ago. There is no need to urge the beauty of this variety, because it is the best among the

large group, every one of which is worth growing. This one sometimes gives rise to sports, and branches bearing double deep rose flowers, like *Cratægus Oxyacantha punicea plena*, appear on it. The double rose and double white varieties are also valuable because they remain longer in



JAPANESE CHERRY (*PRUNUS SERRULATA*).

bloom than the singles. All these Thorns, as well as other trees, bloom earlier in towns than outside of them, hence the advantage of going to the country occasionally. Soil and surroundings have a marked effect in giving an early or a late display. The Fiery Thorn becomes a mass of creamy white in late May and June, but it becomes irresistible in autumn when the red berries ripen. *Cratægus Pyracantha Lalandi* has larger, more orange berries than the type and is the finer of the two. Most of the trees, bushes and wall plants in some districts are now of this variety.

The popularity of the common Laburnum may be gauged by the immense number of trees to be met with in a day's journey. The racemes of flowers vary in length from 2ins. to 6ins., showing that the trees have been raised from seeds. The same applies to the Scotch Laburnum, which blooms two or three weeks later than the common one. It came into full bloom in many places this year at the beginning of June, when the faded blooms of the common species were littering the ground. For length of raceme and intensity of yellow blossom the Scotch Laburnum puts the other in the shade, resembling "dripping wells of fire," as the poet has it. Both species are necessary to prolong the display, though the late-flowering one is the finest, as anyone will admit who knows the two.

Contemporaneous with the late Laburnum comes the False Acacia, with its snowy trusses of bloom, the glory of which is enhanced in proportion to the size of the tree. The handsome rose-coloured variety (*Robinia Pseudacacia Decaisneana*) is rare, as is *R. P. semperiflorens*, which blooms

in a straggling way all the summer on the long shoots of the current year. *R. P. monophylla* is a curiosity, inasmuch as it leaves are reduced to one large leaflet, with one or two small ones occasionally. The narrow-leaved *R. P. angustifolia* and the golden yellow leaved *R. P. aurea* are also uncommon trees in private gardens. The Clammy Locust (*R. viscosa*) is rarely met with, but the Rose Acacia (*R. hispida*) is more common. Not so the variety *R. h. macrophylla*, which lacks the bristles clothing the branches of the type, and which is rare.

The common Horse Chestnut needs no eulogy from me, since thousands, perhaps millions, can testify to that. The English trees contain many among them richly blotched with red, such as are not found in some Continental countries. The finest red Chestnut is undoubtedly *Æsculus carnea*, a reputed hybrid between the common Horse Chestnut and the small red Buckeye (*Æ. Pavia*), the characters of both being evident in it. The Pavias have smooth fruits and leaves. Among them the yellow-flowered Sweet Buckeye (*Æ. octandra*) blooms contemporaneously with the False Acacia, and *Æ. purpurascens versicolor* has yellowish flowers, shaded with red or even heavily blotched with red on the inner face of the petals. The first named commences flowering when only 6ft. to 8ft. high, and is a delectable and distinct little tree.

The Mountain Ash is glorious in fruit, and the same may be said of the rare *Pyrus latifolia*, with its large yellow and orange-coloured berries in autumn. The Limes in July make the air redolent with their perfume. At the same time the Tree of Heaven becomes highly conspicuous when covered with its bronzy yellow bunches of keys. The Catalpas are late-flowering trees, the Indian Bean being the more common, while *C. ovata* is quite rare outside of large collections. Equally or more rare is the yellow-flowered and large-fruited *Kœlreuteria paniculata*, which blooms only in warm seasons, like 1911 and 1921, in this country. *Laburnum Adami* does not come into the same category for ornamental value as the two above named, but, being a graft hybrid, is a most interesting little tree, because after being grown some years, it almost invariably sports on branches into *Laburnum vulgare* or *Cytisus purpureus*, or both, which were the parents.

The above have all come under observation in one garden or another, but do not even exhaust the list of flowering trees, let alone the shrubs: while trees grown for the sake of their foliage chiefly have been omitted, with the exception of the Purple Plum and Tree of Heaven. J F

Trial of Late Culinary Peas at Wisley

THE following awards have been made by the Council of the Royal Horticultural Society to late culinary Peas after trial at Wisley:

First-class Certificate.—Ne Plus Ultra reselected, sent by Messrs. Carter.

Awards of Merit.—Autoerat, sent by Messrs. Dobbie, Messrs. Toogood, Messrs. Barr, Messrs. Watkins and Simpson, Messrs. Nutting and Messrs. Carter; and Freedom, sent by Messrs. Hurst.

Highly Commended.—Glorv and Perfection, sent by Messrs. Unwin; Passport, sent by Messrs. Hurst; Queen reselected, sent by Messrs. Sharpe; Glorv of Devon, sent by Messrs. R. Veitch; Wm. Richardson and Alliance, sent by Messrs. Kelway; and Goliath or Improved Mammoth Sugar, sent by Zwaan and de Wiljes.

Commended.—Dwarf Giant, Renown and Conquest, sent by Messrs. Unwin; Michaelmas.

sent by Messrs. Carter; Captain Cuttle, sent by Messrs. Pearson; Matchless Improved, sent by Messrs. Hurst; and Alderman selected, sent by Messrs. Dobbie

Meadow Saffrons.—At this season of the year when the summer flowers are fast fading a patch of fresh colour is a source of joy to all gardeners. Such a welcome sight is provided by Colchicums, flowering as they do at a season when flowers are much appreciated. The fact that they are low-growing rather enhances their value, for low-growing, autumn-flowering plants are not too plentiful. Colchicums, or Meadow Saffrons, to give them their good English name, will adapt themselves to almost any position, but thrive best in open, sunny places. They can be grown in grass, along borders, or on rockeries. The best effects are obtained by planting in masses, though heavy massing is not desirable on a rock garden; here, however, a good effect may be obtained by judicious selection of position. Owing to the fact that the leaves die down before the flowers appear, it is well, especially in the case of rock gardens, to plant the Colchicums where they will be best displayed by surrounding foliage plants. They can quite well be raised from seed; but as plants raised in this manner will not flower till the third year, it is usual to purchase bulbs, which should be planted in autumn. There are several species in cultivation, but most of the forms common in English gardens are varieties of *C. autumnale*. The largest-flowered species is *C. sperosum*. Though outwardly similar in many respects to the Crocus, the Colchicum differs largely in the shape of its leaves, which in some species are 12 ins. long and 2 ins. or 3 ins. broad.

For the Foot of a Warm Wall.—An attractive plant for flowering along a south wall is *Crinum Powellii* var. *album*. The pure white flowers are borne in umbels of eight, nine or even more on a stiff peduncle. With good treatment flowers measuring 4 ins. to 5 ins. across the trumpet may be obtained. The plant commences to flower in July and will in some cases continue sending out flowering buds until the early days of September. The long glossy leaves add to the attractiveness of the plant. *Crinum Powellii* is a hybrid between *C. longifolium* and *C. Moorei* and is one of the very few hardy Crinums. The bulbs should be planted about a foot deep in good garden soil. Away from the Southern Counties it will be necessary during the winter months to protect the plants from frost, for which purpose a layer of straw or bracken is usually sufficient.

For Bulbs and Plants.—The Editor recently received from Messrs. Richard Sankey and Sons, the well known flower-pot makers of Bulwell, Notts, samples of their ornamental pans in red pottery. These pans are made with or without drainage holes, as desired, and would be suitable for growing bulbs or, with drainage, for cultivating a wide variety of plants. Of agreeable form and pleasing colouring, these simple pans will make appeal to persons with real artistic feeling on account of their lack of meaningless "ornamentation," their beauty of outline, and entire fitness for the purpose in view.

FORTHCOMING EVENTS.

October 27 to November 4. The Imperial Fruit Show to be held at the Crystal Palace.

October 31. Royal Horticultural Society's Fortnightly Meeting. Lecture at 3 p.m. by Mr. C. L. Musgrave on "Methods of Propagation in an Amateur's Garden."

November 1. Croydon Chrysanthemum Society's Show.

November 3. Parsley Florists' Society's Meeting.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

ACANTHUS MOLLIS AND A. LATIFOLIUS (M. J. T.).—These two plants are botanically indistinguishable, being only forms of one species. *A. latifolius* (which means broad-leaved) is larger and more robust in all its parts, being very easy to distinguish by this means.

TREES AND SHRUBS.

BROOMS (Folsted).—The dry sunny bank described by our correspondent appears to be an ideal spot for Brooms. The best to raise from seeds sown now would be *Genista pilosa*, *G. tinctoria*, *Cytisus purpureus* and *C. Arduini*. *Cytisus kewensis* and *C. Beani* are beautiful prostrate Brooms, but as they are hybrids increase in size by cuttings.

YUCCAS AND OTHER QUESTIONS (A. M. T. R., Birtley).—Yuccas are hardy in most parts of the country. In cold winters and as a protection against snow, tie up the leaves tightly, holding them together with hay or straw bands. The loamy soil for Yuccas must be very well drained. This is best done by digging in plenty of old broken mortar rubble and other builders' rubbish. *Cedrus Deodara* and *C. atlantica glauca* are perfectly hardy. The only trouble with these would be the breaking of the branches with heavy falls of snow. The three *Magnolias* named (M.M. *stellata*, *complanata* and *Soulangiana*) are quite hardy.

PLANTING RHODODENDRONS (A. M. T. R., Birtley).—The best guide to the culture of Rhododendrons in our correspondent's neighbourhood is to visit the surrounding gardens to see if any Rhododendrons are grown and with what success. The treatment proposed should be quite satisfactory, including the top-spit soil where bracken thrives. Manure is not required for Rhododendrons; the only thing that might be beneficial is a top-dressing of very old spent manure after the Rhododendrons have been planted a few years. Wood ash would be beneficial and possibly a little charcoal if the soil is moist.

FRUIT UNDER GLASS.

VINES ATTACKED (E. W., Southampton).—During the winter, overhaul and disinfect thoroughly the whole house in which the vines are growing. Take off all loose bark from the vines and wash them with Gishurst compound. Thoroughly fumigate the house on the first sign of the pest with one of the advertised fumigants, and touch every mealy bug seen with a brush dipped in petrol or methylated spirit. Take all the other plants out of the house while the vines are dormant, if possible, and fumigate it thoroughly. If this is not possible, then a weaker fumigant must be used. For mildew, see that the ventilation is thoroughly efficient and that no draughts occur.

MISCELLANEOUS.

TRAPPING SLUGS (M. D. W., Ripon).—Slugs may be trapped by placing pieces of Potato, hollowed out, near their haunts and examining them at intervals to kill the captives, and the plants they attack may be protected by dusting with lime or by ringing round with ashes fresh from the furnace.

PACKING LILY OF THE VALLEY FOR EXPORT (E. S. M.).—Lift the crowns in the form of medium-sized clumps and place the latter in a dry, cool shed for at least one night prior to packing. Only remove any loose soil and not any leaves. Place a thin layer of coconut fibre quite dry in the bottom of a box just deep enough to hold the crowns, soil and leaves, and then pack the clumps quite close together, filling up tightly with coconut fibre before nailing down the lid. When unpacked simply plant the roots in a cool border, water once to settle the soil, and leave the foliage to die as naturally as possible. Do not remove it forcibly from the crowns. The check to the latter will not be great.

NAME OF PLANT.—Mrs. P., Bournemouth West.—Rose His Majesty.

NAMES OF FRUIT.—B. C.—The two Apples sent were such small, diseased and malformed specimens that it was impossible to identify them. The Bismarck Apple sent was not affected with mildew, but was attacked by the Scab fungus and aphides had also done some damage.

—E. B., Berks.—1, Cannot identify; 2, *Beurré de le Assumption*; 3, *Beurré Clairgaut*; 4, *Beurré Capiaumont*; 5, *Claygate Pearmain*; 6, *Autumn Pearmain*; 7, *Yorkshire Greening*; 8, *Golden Noble*.—T. S. T., Wincoboe.—Apples: 1, *Winter Hawthornden*; 2, *Royal Late*; 3, *Wellington*; 4, *Probably Blenheim Orange*, specimen poor; 5, *Saundersham*; 6, *Probably Brandley's Seedling*, specimen poor; 7, *Probably Rival*, specimen poor. —C. P. C., Apples: 1, *Queen Caroline*; 2, *Lord Burghley*. Pears: 1 and 2, *Marie Louise*.—T. F.—Apple *Homeade Pearmain*.—J. B.—Apples: 1, *Ribston Pippin*; 2, *Cellini*; 3, *Beauty of Stoke*; 4, *Allington Pippin*; 5, *Lady Renwick*; 6, *The Queen*; 7, *Charles Ross*; 8, *Golden Spire*; 9, *Bramley's Seedling*; 10, *Margil*; 11, *Emperor Alexander*; 12, *Manks' Codlin*. Pear: *Doymé du Comce*. —R. H. B., Fife.—1, *Gascogne's Scarlet*; 2, *Bismarck*; 3, *Annie Elizabeth*; 4, *Allington*; 5, specimen too poor to identify; 6, *Allington Pippin*; 7, *Summer Golden Pippin*; 8, *Lord Derby*; 9, *Probably Royal Late*; 10, Cannot identify, specimen too small and diseased; 11, *Ben's Red*. The labels had become detached from the remainder in transit.

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VARIOUS USES OF ROSES IN THE GARDEN

THE English climate is particularly suitable for many classes of plant, but notably so for the Apple and the Rose. No wonder that the latter is our National Flower! It may be doubted, none the less, whether on the whole we use the Queen of Flowers to best advantage in our gardens.

The typical formal Rose garden is admirable enough in its way and displays fairly closely pruned dwarf-habited varieties to great advantage, but it is not the only way of using the so-called dwarf Roses satisfactorily. Such varieties as Hugh Dickson, Fellenberg, Boule de Neige, Mme. Eugène Resal, La Tosca, Pharisäer, Caroline Testout, Mermaid, Joseph Hill, Pax, Irish Elegance, Florence H. Veitch, Zéphirine Drouhin, Danæ and J. B. Clark will all, if allowed, grow into handsome bushes as wide as or wider than high and at least 4ft. to 5ft. tall. To these may be added *Rosa rugosa* in variety and most of the Rose species and such semi-climbers as Alister Stella Gray (which will make a magnificent bush 8ft. high and as much through), Grüss an Tephitz, Conrad F. Meyer, Nova Zembla, Lady Waterlow, Trier and Gustave Régis. Such almost naturally grown bushes are useful, of course, for the Rose dell or for informal gardening however named, but they have a real value in the more formal and ordered parts of the garden. On the Riviera, bush Roses are actually bushes, but in this country the very term is a misnomer, the consequence being that the great majority of gardeners scarcely look upon the Rose as being a shrub at all.

The Hybrid Sweet Briars almost without exception make charming bushes, but ample space should be left around them on account of their heavy armament of thorns. Meg Merrilies is probably, taking habit,

colour and freedom into consideration, the best variety, but the crimson-scarlet *Refulgence* is at once attractive and vigorous. The crimson and white *Janet's Pride* has many admirers, so—though it is not a Sweet Briar—has the rose and white *Leuchstern*. This is a variety of moderate vigour which never sheds its petals, a very unusual trait in a single Rose. It is excellent for bushes in the open or for Rose hedges. To return to our Sweet Briars, the most attractively coloured varieties are, of course, *Lord Penzance* and *Lady Penzance*, but not everyone can persuade them to make satisfactory bushes. Some of us, however, will keep on trying, for when they do succeed they are certainly very lovely.

The popularity of weeping standards has become so great as almost to amount to a craze. The cult of tall weeping standards has, indeed, been carried to absurd lengths, but those with "legs" not exceeding 4ft., or at most 5ft., are valuable as affording a variety not otherwise obtainable in specimen bushes, for so such trees may fairly be called when they have become almost solid

mounds of vegetation. Almost all the *Wichuraiana* hybrids are successful so treated, but mention may be made of *Albéric Barbier*, *Jersey Beauty*, *Klondyke*, *René André*, *Débutante*, *Gardenia* and *Troubadour* as especially suitable. The less substantial foliage of the *Dorothy Perkins* section renders them less valuable, but they, too, answer fairly well.

Rambler Roses, also, though used extensively—in the case of a few favourite varieties perhaps too extensively—are not always employed as effectively as they might be. They are used to far too great an extent for covering walls, where some of the choicer climbing varieties would succeed better and give incomparably finer effects. On the other hand, the Rambler section is far too seldom seen growing into and over trees. It is surprising how readily people will go to some expense and trouble to provide a more or less unsightly pole for a Rambler when labour and eyesore might be at once avoided by planting the Rose to climb a tree with, ultimately, far finer effect. The Musk Rose, *Rosa moschata*, is finest of all for climbing

through and flowering in the tree tops, but unfortunately even the hardiest forms are not recommendable for inland gardens in the North. The double Hybrid Musk, *The Garland*, is almost equally free and very considerably hardier. Most of the stronger-growing *Wichuraiana* hybrids are suitable for the same purpose, especially *Dorothy Perkins* and its relatives *Excelsa* and *Lady Godiva*. The multi-flora Ramblers, once so popular but now largely superseded by varieties having *Wichuraiana* blood, do not make sufficient continuing growth to be suitable for tree climbing, but they never shew to greater advantage than when planted in a shrubbery and allowed to throw their trails almost at



AMERICAN PILLAR, PERHAPS THE HANDSOMEST OF WICHURAIANA ROSES.

will over other shrubs. They serve, too, to provide colour in the shrubbery when it is none too plentiful. Any varieties belonging to the section will answer so treated, for they value the shady root-run, but perhaps the two best are Crimson Rambler, once so ubiquitous, and the really charming Blush Rambler. Other worthy sorts include the early-flowering and charming single Carmine Pillar, Hélène (a very strong grower), Goldfinch, Tausendschön and Tea Rambler.

Roses are to-day largely used for screens, Rambler varieties being trained for the purpose to a trellis or other framework. If the framework is made sufficiently stout, they answer the purpose quite well, especially where a wise selection of varieties is made. *Albéric Barbier* is especially suitable for several reasons. It has handsome dark green glossy foliage, is, in favourable situations and winters, evergreen, is a robust and "extending" grower so makes little dead or worn-out wood, and flowers more or less continuously from mid-summer until late autumn. Strained wire answers quite well for the training if the wire be of fairly stout gauge and well galvanised, and the straining posts be substantial and securely anchored. The strain caused by a considerable weight of Rose branches laden with snow is very considerable, and it is wise wherever possible to provide one length of rails running between the posts at the top to counteract the pull of the wires.

Rose hedges are often spoken and written of, but less frequently seen in gardens than their value would suggest. If a measure of protection is needed against straying cattle or other trespassers and a second line of defence is often useful—nothing better can be employed than Sweet Briar, either some of the more robust Penzance hybrids or the delightfully fragrant species itself. Such a fence may be reinforced if desirable, with posts and wire or chestnut spile fencing. Japanese (*rugosa*) Roses or the fragrant and altogether delightful hybrid *Conrad F. Meyer* may, if preferred, be used in a similar way.

If the hedge is to be purely ornamental, there is a great number of varieties from which a selection can be made, and any height may readily be provided from 2ft. to 8ft. The Scotch Roses, in variety are useful for hedges up to 3ft. in height, and this represents about the maximum practicable height of hedge of *Mme. Eugène Rosal*, *Irish Elegance* or *Fellenberg*. *Hugh Dickson* and *Gruss an Teplitz* will run to 5ft. or so, and *Leuchterstern* is most effective when headed back at about 6ft., while *Mme. A. Carrière* and *Alister Stella Gray* have an effective height of quite 8ft. *Mme. Carrière* is very free, handsome and fragrant, and *Alister Stella Gray* is surely, of tall-growing Roses, the most prolific and perpetual. Even in November bushes are often still smothered with the rather small orange buds and creamy blossoms. The elegant arching canes, handsome foliage, luridly brilliant flowers and glossy hips of *Rosa Moresii* make this perhaps the best of the species for hedges, though the hips or *Rosa Fargesii* are even more brilliant. The very pale yellow *Rosa altaica*, closely related to the Scotch Roses, is excellent for the purpose, and may be relied upon to reach 5ft. or perhaps a little more. The happily named *Moonlight* (Hybrid Musk) is also becoming popular as a hedge plant. The thornless *Zéphirine Drouhin* with its rose-coloured blossoms is another much prized for this purpose.

The standard Rose—the ordinary old-fashioned standard, not the newer "weeping" sort—is, properly employed, exceedingly useful and handsome. Too often, however, specimens are dotted more or less promiscuously about beds of dwarf Roses. Not is this all. Very frequently, even



WICHURAIANA ROSES OVER A ROUGH FRAMEWORK OF TIMBER.



WEeping STANDARD ROSES WELL USED.



PLEASING MOUNDS OF ROSE ELECTRA.

ABOUT SINGLE ROSES

when the general placing of the standards is good an unsuitable selection of varieties ruins the intended effect. Roses suitable for standards may be roughly divided into three classes, namely, those which form large heads, those which form heads of medium size, and the more usual varieties which form small heads. Obviously in a row of standards all should be of about equal vigour. Large growers include Gloire de Dijon, Grüss an Teplitz, Lady Waterlow, Mme. A. Carrière, Alister Stella Gray and William Allen Richardson. Smaller than these but still far more vigorous than the ordinary standard are General McArthur (admirable as a standard), Hugh Dickson, Joseph Hill and Gustave Régis. Of the ordinary run of standards the following are especially recommendable: Caroline Testout, Château de Clos Vougeot, Cynthia Forde, Ecarlate, George Dickson, Isobel, K. of K., Lady Ashtown, Lady Hillingdon, Lady Pirrie, Louise Catherine Breslau, Lyon Rose, Margaret Dickson Hamill, Mme. A. Chatenay, Mme. Ravary, Mme. Segond-Weber, Molly Sharmar Crawford, Mr. A. E. Coxhead, Ophelia, Pharisæer and Prince de Bulgarie. Standard Roses are seen to best advantage when used to form an avenue in rather restricted quarters where larger trees would be out of place or when utilised in single rows to balance a weightier feature on the opposite side of a pathway or vista.

The advent of the Wichuraiana hybrids made feasible the training of Roses down walls or unsightly banks, which is, in some cases, a great advantage. To take a typical instance, let us consider the question of the terraced garden which almost necessarily calls for a retaining wall with a parapet above ground level on the upper side. The material of which such a wall is composed should be good, perhaps shapely brick or more or less dressed stone. It is a thousand pities entirely to hide such a wall but, in a garden, it must obviously be draped. Now, looked at from below, an occasional slight mounding of vegetation on top of the wall with trails depending from it, is certainly preferable to the effect produced by climbers all starting at the foot of the wall.

It may be said that if there were no Roses of a more or less weeping habit of growth, there is an abundance of vines which would serve our purpose. This is so, but as the Roses do exist, let us use them and be thankful. Most of the Wichuraiana section are suitable for the purpose so far as habit of growth goes. American Pillar, which many consider quite the best of the section and which is illustrated on page 551, is an exception, the growths being too stout to hang with any grace. The Dorothy Perkins section answers on a wall with an easterly exposure (or with a westerly one if anyone can be found to devote this to such commonplace plants!), but they usually get badly infested with aphides on walls or banks at all sun-parched. Albéric Barbier is the great stand-by for such positions, but the beautiful single Jersey Beauty or the semi-double Klondyke answer well. Of the pinkish sorts, René André seems to withstand heat the best and of crimson the best is, undoubtedly, Troubadour, a variety which for some reason seems to have made little progress towards popularity. For banks the species itself (Wichuraiana) is extremely beautiful and useful. It has the great merit of quickly obtaining a foothold on the bank itself, thus staying any tendency towards crumbling.

The popularity of these Wichuraiana hybrids is understandable, but for pillars and suchlike the more compact growing, if older, multifloras have great advantages. There is no reason why both classes should not continue to exist side by side. The best of the Multifloras are Blush Rambler, Philadelphia Rambler, Mrs. F. W. Flight, Tausendschön, Leuchtstern, Aglaia and Thalia

I AM not burning my boats in writing this heading. I am just using language which my ten thousand fellow members of the National Rose Society understand. It goes a bit against the grain to put "single" in the title. How much, the above ten thousand may know by their feelings if on reading an article "On Rose Monstrosities" they were to find it was all about Lady Pirrie, Ophelia, Independence Day, Mme. Abel Chatenay, Gloire de Dijon and Zéphirine Drouhin—in fact, all about those endless varieties which a rosarian would ordinarily label "Roses." I had no idea how some people look down on single Roses until I paid a visit to

wrath on what he called "official love." It is a grand phrase. Not long since I had a silly woman looking at my Michaelmas Daisies. Does no one know what I mean when I say she gave them "tulsome 'official' admiration"? Thus, in writing in praise of single Roses, it is not that I wish to bring about a grudging official recognition of their charms either from superior individuals or from a thoughtless society. They are "when unadorned, adorned the most," and can very well be left to take care of themselves; but if people do not know there are such flowers, how is it then? There are both species singles, like Moyesii and nitida, and hybrid-singles like Isobel and

the climber American Pillar. But as climbing Roses are, as it were, a class apart, and as they have been freely admitted into very many gardens as *personæ gratae*, they may be left with this passing reminder of one of the best and most effective of all, although it is only a summer bloomer. Isobel is deservedly one of the most popular of all Roses at the present time. Many, however, seem unable to appreciate it when it is fully open, and write of it as if its beauty has well nigh departed when its "sweet seventeen" stage is passed and it has become a full-blown flower. Take, too, for example the sweet fresh pink Mrs. C. E. Salmon or the warm buff Mrs. Oakley Fisher, or that statuesque-looking white Innocence which Mr. Chaplin brought to the last autumn show. Can the fleeting girlish charms of even Los Angeles and Lady Pirrie compare with the more mature beauty of these singles? Were I to include semi-singles I would add to the three already named Rose Celeste, Moonlight and the Hon. Ina Bingham. How delicious the scent and how brilliant



THE "STATUESQUE-LOOKING WHITE" INNOCENCE.

a Rose friend who had many times asked me to come and see his garden. After I had seen almost everything we came to a bush whose flowers had but one row of petals, which surrounded a golden centre of stamens. Quite innocently I remarked that I thought it was the most beautiful Rose I had seen that afternoon. Oh my! wasn't the fat in the fire! Only the politeness of an English host saved me from an angry and forcible dismissal.

My friend is doubtless rather extreme in his views, but I wonder if it has struck people that there is not one class in the National Society's schedule for single Roses. Surely it is a bit hard upon their feelings to find themselves denied admission to the company of show flowers because they have never put on a sufficiency of skirts. At the late Church Congress at Sheffield a well known London clergyman poured out the vials of his

the colouring of the new Glowworm! I would like to be somewhere where its perfume is "very thick." It seems so Eastern-like. "Sure" then if I were to shut my eyes and, opening them, look around, I would find myself in that "bower of Roses by Bendemeer's stream."

How marvellous the deep carmine colouring of nitida's leaves and stems in autumn time! But neither scent nor deep autumn tints are the peculiar inheritance of single Roses, so perhaps it is a wee bit unfair to mention them at all; only, again, everyone may not know they are to be found among the singles. The unaccustomed rather loud double colouring of The Queen Alexandra Rose is not half so "polly" as that exquisite contrast which we find in the Austrian Copper—a true single. And to pass on to species singles. A big debt of gratitude is owing to those who

have brought us from China and elsewhere such delightful varieties as Moyesii, Hugonis, Willmottiae and some which I only know by repute or from seeing their features delineated in such pictures as are to be found among the pages of the "American Rose Annuals," as, for example, Gentiliana, multibracteata, bella, Jackii and multiflora var. cathayensis. It makes one's mouth water to think of them, and it goes without saying that the lover of single Roses would like to possess some of them. Where are they to come from? A quotation from the third volume of the "American Rose Annual" (that for 1918), page 27,

hits the nail on the head. "One drawback to the popularity of single or bush Roses is the difficulty of getting most of them. Many nurseries carry R R rubiginosa (the Sweetbriar is more attractive to the writer than the showier Penzance hybrids), carolina, lucida, nitida, setigera and rugosa. The others—dozens of them—are hard to find. Why does not some nurseryman stock up with every kind of wild and bush Rose he can find (perhaps he does already, unknown to the writer, in which case I think the Editor, who is a Rose crank himself, ought to give him a little free advertising), and why do not a hundred or a thousand make

collections as complete as possible if only to encourage him in his good work?" The argument is somewhat of a circular nature. The amateur must begin to form collections, presumably from the nurseryman's stock in trade which, when rung up, simply is not there; and the nurserymen must hold stocks for collectors who have still to be enthused. In our own Rose Annual for 1918 Mrs. Darlington and Mr. J. R. Ramsbottom both write in praise of Rose species. The seed has been sown. Let lovers of Roses water the tender plaut with words in season, and as opportunity offers proclaim their love. J. JACOB.

THE BEAUTY of the WILD ROSES

UNDER this heading it is possible to arrange a large number of wild or quasi-wild species, hybrids and varieties of Roses that appeal to many garden lovers on account of the beauty of their flowers, fruit or foliage, or the fragrance of their flowers or leaves. The list could be extended indefinitely, but a selection will afford variety sufficient to meet the requirements of most gardens, except those of the specialist. No class of plants is more variable in the wild state, and when brought under cultivation their possibilities are unlimited when subjected to crossbreeding or hybridisation.

The White Rose (*Rosa alba*) has been cultivated from time immemorial, although it is recorded in some books as having been introduced in 1597. Various countries of Europe and the regions of the Caucasus have been given as its native habitat, but most botanists are agreed that it is a hybrid. It has been found wild in France and elsewhere. It appeals by the fragrance of its white or blush flowers, one variety being largely cultivated for extracting attar of rose. In one form or other it is the glory of many a cottage garden, the varieties being represented by Rose Celeste or Celestial, Maiden's Blush and Jacobite White. A closely allied hybrid is *R. macrantha*, which enjoyed considerable popularity some thirty years ago. The blooms are blush fading to white, and measure 3 ins. to 4 ins. across. Another that figured prominently in floral decorations some years ago is *R. Andersoni*, with bowl-shaped rose pink flowers.

The Musk Rose (*R. moschata*) is represented in this country by the vigorous climber best known as *R. Brunoni*, which many rosarians term the Wild Briar of the Himalayas. This is seen at its best when given an old tree, of considerable height over which it can ramble and spread out its compound clusters of flowers, at first pale yellow, but soon changing to white. In a wild state it extends from South Europe to the Himalayas and China. Very numerous hybrids exist in

gardens, a goodly proportion of which are of recent origin. The Macartney Rose (*R. bracteata*) would be more often seen in gardens than it is were it only somewhat hardier. It is quite suitable for the South and West of England but, about London, is better for the protection of a wall. The leaves are dark green, leathery and evergreen, the latter character being, no

their size, structure and arrangement constitute a striking feature of this species, which in leaf and flower is unique in cultivation. Several hybrids have been produced in gardens, of which Mermaid is one of the most recent and striking on account of its large, pale yellow flowers. It can be grown as a bush or climber.

The most popular of the recently introduced yellow Roses is *R. Hugonis*, named after Father Hugh Scalan, who sent seeds of it from Western China to Kew, where it was reared in 1889. It forms an upright self-supporting bush for the first few years, and produces a profusion of bright yellow flowers about the middle of May onwards. It never becomes rampant, though it will ultimately get 8 ft. high and as wide, if not restricted. The leaves are not unlike those of the Scotch Rose, but larger, and produced in such quantity as to form a delightful bush. The Scotch Rose (*R. spinosissima*) is the first of our native Roses to open its creamy white, fragrant blossoms in May. Rare specimens are deep red, one having been found recently in Cheshire by Major Wolley Dod, who monographed the British Roses. The variety *R. s. lutea* bears buttercup yellow flowers 2 ins. across. Larger in every way is *R. s. altaica*, with creamy white flowers 3 ins. in diameter. All these forms make self-supporting bushes of great beauty. They are perfectly hardy and of the easiest cultivation. The first coloured variety was found in Perthshire, and that gave an impetus to the cultivation of this race till a very large number, probably hundreds of varieties, single and double, were named and put into cultivation. This gave rise to the name Scotch Rose, for the wilding is common to Britain. The beauty of the Austrian Yellow (*R. lutea*) cannot be over-



THE BRIGHT YELLOW FLOWERS OF ROSA HUGONIS.

doubt, the chief reason for its tenderness. The white flowers measure 3 ins. to 4 ins. across, and are surrounded at the base by several large, deeply cut bracts that invest the orange-red, woolly fruit. Most wild Roses have these bracts, but

looked, though so well known that a mention may suffice. The species is closely allied to the Scotch Rose, but differs in the absence of the bristly prickles that clothe the stems of the latter. It is the yellow parent that has given the Pernetiana

ROSES FOR CUT FLOWER AND INDOOR DECORATION

Roses their most striking characteristics. The Austrian Copper (*R. lutea punicea*) has given its two remarkable colours to Juliet and The Queen Alexandra Rose. All the above group only require thinning occasionally, but no regular pruning, for they bloom profusely on very small twigs.

The thornless Roses are not particularly common, although they have been long in cultivation. The bright pink flowers of *R. alpina* are followed by narrowly pear-shaped, deep red fruits. It has given rise to the Boursault Roses in cultivation. The Pyrenean variety (*R. a. pyrenaica*) is notable for its dwarf habit, sea-green hue and long, bristly yellow fruits. It takes up little space and is suitable for the rock garden. The Smooth or Meadow Rose is thornless, though it may have a few bristles on the stem occasionally. Many visitors have been charmed by its rose and deep pink flowers growing along the sides of the street or in the small front gardens of a central Highland village, often quite unprotected. It makes an upright bush about 4ft. high.

The long, bright red and pear-shaped fruits of *R. macrophylla* are preceded by clusters of large light red blossoms, and accompanied by beautiful foliage. This leads up to *R. Moyesii*, one of the most striking and interesting of recent introductions. The colour of the large flowers is difficult to describe, and has been called rosy red, reddish crimson, lurid dark red, deep red and terra-cotta red by various people who have attempted to define it. The bottle-shaped, red fruits are glandular and rough at the base. The species was accorded an award of merit by the Royal Horticultural Society when shewn by Messrs. Veitch in June, 1908.

A really splendid companion to this variety is *R. Fargesii*, which was honoured by an award of merit on October 17 when shewn by Mr. J. C. Allgrove. The fruits are 2ins. to 2½ins. long, bristly all over, and have longer necks than those of its relative. Even the sepals are fleshy and scarlet like the rest. In clusters of two or three, the pendent fruits resemble the tube and sepals of a scarlet Fuchsia.

The four-petalled Roses are notable for their tall, slender, upright growth and profusion of white flowers, produced singly and closely wreathing the long stems in May in advance of most other Roses. The best known is *R. sericea*, but this was followed by the Mount Omi Rose (*R. omiensis*) in 1901. The pear-shaped, red fruits have a thickened deep yellow stalk. The stems vary greatly in armature, and the most remarkable in this respect, *R. o. pteracantha*, has recently been placed under the Mount Omi Rose instead of under *R. sericea*. The young and growing stems are more or less covered with large, flattened, translucent blood red spines that make them appear winged and unique among Roses.

Many other Roses are noted for their large and handsome fruits, particularly the Ramanas Rose (*R. rugosa*) and the Burr Rose (*R. microphylla*), both with flattened, globular fruits, the last named resembling a burr in its bristly character, and green colour, to which fragrance is added. The Apple-fruited Rose has the largest of any, and is related to the British *R. mollis*, which is much dwarfer, perfectly upright and usually loaded with its handsome, globular, deep red fruits. The wild Sweet Briar has a variety with orange-scarlet fruits that are bristly all over; this is *R. rubiginosa echinocarpa*, that is, hedgehog fruited. *R. rubrifolia* is unique in its purplish red and sea-green foliage, reddish stems and deep rose flowers. It should certainly find a place in collections. The fruits, which are produced in bunches of some little size, are also attractive.

HORTICULTUS.

WITH the possible exception of the Violet, no flower gives so much pleasure when used for indoor decoration as does the Rose. Even the Violet itself can scarcely be called a serious rival, for though it holds a very high place in our affections on account of

flowers; and hence there was dissatisfaction among the competitors. Without a doubt many flowers are far easier to arrange gracefully and lightly than Roses are. Poppies, Sweet Peas, Carnations, to mention only three kinds, have slender, smooth stems which will easily be persuaded to stay just where they are wanted to

when cut and placed in water, whereas Roses have for the most part thorny, somewhat thick stems, and not infrequently they hang their heads and droop in an ungainly way. Those varieties which do this in a marked degree—for instance, the beautiful Tea, Mrs. Foley Hobbs—are really not suitable for cut flowers except in specimen vases or in exhibition boxes where the wiring they require is given them as a matter of course. But to my mind wiring Roses, or any other flower, for ordinary house decoration is much to be deprecated, for a wired bloom never has the grace or natural pose which goes far to make the beauty of a flower.

If only we choose the right sorts of Roses they will provide us with what we most want in our house decoration—colour, pure and varied; form of surpassing loveliness; and fragrance, refreshing as well as sweet; and to add to these attractions many varieties have singularly beautiful foliage.

Some may object to the Rose blossoms on account of their short life, and certainly the Rose does not



ADMIRABLE FOR CUT FLOWER, ROSE OPHELIA.

its unsurpassed fragrance, yet it has quite a limited range of colour and form, while the Rose in both these respects has almost infinite variety. We can fill small bowls and low vases with Violets in the spring and again in the autumn, but from May to November the Rose will give us sprays large and brilliant enough to be effectively used in tall epergnes and high standard vases, or small and delicate enough for tiny specimen vases. The comparison between these two flowers brings to our mind Sir Henry Wootton's verses:

"Ye Violets that first appear,
By your pure purple mantles known.
Like the proud virgins of the year,
As if the spring were all your own—
What are you, when the Rose is blown?"

The pre-eminence of the Rose as a cut flower is further proved by the fact that at many flower shows it has been found necessary to make a separate class for Roses when used for table decorations, because judges seemed unable to resist the beauty of the Rose even though it might not be so well arranged as some of the other

last so well as the Carnation. But many Roses bloom with wonderful freedom and continuity, so that though the Rose of to-day may be gone, the Rose of to-morrow quickly takes its place. And it is well worth our while to take a little pains with our cut Roses. In the first place, we should always cut them in the bud or half-open stage, and we should also cut them in the coolest part of the day. If before arranging them in the vases they are to nil, we cut off the thorns and scrape the stems and plunge them for not less than a couple of hours into basins or bowls, being careful not to let the petals actually touch the water, they will be able to take up sufficient moisture to make the stalks firm and the Roses will probably last two or three days even during hot weather, and, naturally, a day or two longer as the weather gets cooler.

There is no way in which Roses look more delightful than when arranged in bowls either of one variety or of mixed varieties. A few years ago one could go out in the garden and pick from many different sorts, then come in and arrange them together in a bowl with usually quite happy

results from a colour point of view. The pale and deep pinks, the crimson and maroons, the cream, yellow and buff shades would all blend harmoniously. But since the advent of such Roses as Mme. Edouard Herriot, Henrietta and others of terracotta and strawberry or orange tints we have to be much more careful. The exquisite glowing rose pink of Mrs. E. G. Hill loses all its brilliancy, and looks "blue" and dowdy if it is arranged with either of the kinds I have mentioned. For this reason I think the plan of arranging each variety separately has become more and more popular. Nothing looks better than a big bowl or vase of a brilliant crimson Rose with handsome dark foliage, such as Mrs. Edward Powell or Hugh Dickson, or for those who prefer light colours the glistening yellow Mrs. Wemyss Quin or the softer tinted and perfectly formed fragrant Ophelia.

Still, those who have the artistic sense and who love colour will not rest content with such simple schemes. They will find a fascinating occupation in arranging together Roses whose varying tints add to instead of detracting from one another's loveliness. A combination of Old Gold with

Severine or Emma Wright, or Red Letter Day with young blooms of Hoosier Beauty or Dora van Tets, or of some of the soft pink or pale flesh varieties may make very charming table decorations, especially if to be seen only by artificial light, for "colours seen by candle-light look not the same by day," and many Roses blend well even by electric light whose colours are not nearly so harmonious when seen by the white light of day. Such a Rose as Mme. Edouard Herriot will not always "go" even with itself! The intense flame colour of the young buds will clash with the distinctly blue tinge which sometimes appears unexpectedly on the open blossoms.

Those who have but little time to give to arranging their flowers will find the Dwarf Polyantha Roses useful. Their straight clusters of blossoms, for the most part with smooth stems, are very quickly picked and placed in vases. Little brown baskets arranged with the deep crimson Poly. Pom. Edith Cavell and the brightly tinted leaves of Rosa nitida make quite a pretty autumn table decoration which, while taking the minimum of time to arrange, will last fresh for many days. The

fern-like foliage of Rosa sericea, the four-petalled Rose, and the glaucous stems of Rosa rubrifolia are very decorative when used sparingly with some of the Hybrid Teas, and look far better than Asparagus or other Ferns which some are tempted to mix with their Roses.

The Rose is so glorious and complete in itself that it wants very simple treatment when used as a cut flower. Over-elaborate treatment and the mixture of other flowers usually takes away from its consummate beauty. As Browning puts it

"The craftsman thinks to grace the Rose
Plucks a mould flower
For his gold flower,
Uses fine things that efface the Rose."

Let us remember this when arranging our Roses. By over-elaboration and careless admixture of colours it is easy to "efface" their beauty, while by simplicity of treatment and artistic feeling for those forms and colours which lend themselves to grouping we may make charming flower pictures such as no other flower but the Rose can give us.

WHITE LADY.

SOME OF THE NEW ROSES OF 1921

OUR collection of the 1921 new Roses is incomplete—some of the varieties were too highly priced for a slender purse, and the continental specimens were mostly sold out. Thirty-four varieties were tested and, taken all round, they can be said to shew a great improvement on the new Roses of 1920—in fact, some excellent productions have been placed on the market. Let us take them in alphabetical order.

Annie Gregg (H. T., Chaplin Bros.).—A medium grower with large pale pink blooms with deeper pink centres. Of poor shape, however, and it seems a questionable policy to put such "new" varieties on the market at all.

Bessie Chaplin (H. T., Chaplin Bros.).—Quite a superior article: a strong, erect grower, with large bright pink blooms of Caroline Testout type, but a more pointed shape. Although perhaps an exhibitor's Rose, it would be useful also as a

garden variety, where its sweet scent would be especially appreciated.

Coral Cluster (Dwarf Polyantha, R. Murrell).—A unique break in dwarf polyanthas, so far as colour is concerned, being a pretty coral pink. A strong grower with large trusses of blooms, reputed to be a sport of Orleans, but it is firmly established and shews no sign of throwing back.

Duke of Normandy (H. T., Jersey Nurseries).—Very vigorous and upright growths, with good



ROSE SUNSTAR.



FULL AND FRAGRANT, MRS. HORNBY LEWIS.

trusses of blooms. Correctly described in catalogues as a high coloured La France; Disbudded, the blooms would be strong enough for an exhibition box. Origin St. Helena × George Dickson. Well worth a trial.

Earl Haig (H. T., Alex. Dickson and Sons).—A strong grower with large crimson blooms. Although considered a bedding variety, most of the blooms are quite good enough for an exhibition box, as they are full and come a good shape. It mildews slightly, but to its credit it is very sweetly scented and should be grown by exhibitors who also want good, effective beds of bloom in their gardens. A gold medal Rose.

Elizabeth Cullen (H. T., Alex. Dickson and Sons).—Another gold medal Rose. A fine bedding Rose and an improvement on K. of K. A strong grower, giving masses of large semi-double, deep crimson blooms, making a wonderful effect when massed in a bed. Water occasionally in dry weather. My experience is that this strain of Roses resents drought.

Etoile de Feu (Pernetiana, Pernet Ducher).—Medium growth. Yellowish-pink to flame red blooms, globular in shape, but too much like our old friend Louise Catherine Breslau, though more fragrant. Hardly any call for this as a "new" variety.

Ethel James (H. T., S. McGredy and Son).—Good, strong, bushy growth, with single blooms very similar to Isobel, though not such a tall grower, in fact bloom and plant might be described as a refined Isobel. Sweetly scented and an excellent bedding Rose, especially for amateurs who have not already got a bed of Isobel in their gardens. Well deserved the gold medal of the N.R.S.

Ethel Somerset (H. T., Alex. Dickson and Sons).—A good, clean grower of bushy habit, with pink blooms, the colour resembling that of Mme. Abel Chatenay. The blooms should be large enough for exhibition, but are inclined to be a little flat. A profuse bloomer.

Helene Duche (H. T., E. Buatois).—An unwanted variety. Medium growth only, with pale pink blooms of Caroline Testout type, but in no way superior thereto.

Irene Thompson (H. T., S. McGredy and Son).—Medium growth, with clean, erect blooms of orange-yellow colour, well pointed in shape. The dark, glossy foliage is wonderfully effective with the bright coloured and sweet scented blooms. A good bedding variety, to which the gold medal of the N.R.S. has been awarded.

Laxton's Crimson Orleans (Dwarf Polyantha, Laxton Bros.).—A strong grower, in fact so tall that it is almost a misnomer to call it a Dwarf Polyantha. Big trusses of crimson blooms, with foliage similar to Orleans, but it is not quite fixed, some growths throwing back to its original parent. Very free flowering, the blooms continuing through the autumn months.

Mme. Edmond Gillot (H. T., Pernet Ducher).—A moderate grower, with large reddish-yellow, cup-shaped blooms. A garden Rose, hardly a novelty, and no call for it as a "new" variety.

Margaret Horton (H. T., Elisha Hicks).—A good grower with nice clean foliage. Long pointed buds, large well-shaped blooms held erect, deep orange in colour. A good bedding Rose.

Martha Drew (H. T., S. McGredy and Son).—Upright medium growth. Large creamy-white blooms, with light pink centres, resembling in colour Mme. Augustine Guinoisseau. Not in my opinion quite up to the usual high standard of Messrs. McGredy's productions, although it has been well shewn and awarded the gold medal of the N.R.S.

Mary Munro (H. T., J. H. Pemberton).—A very strong grower, with heavy light coral pink

blooms, globular like Caroline Testout. The foliage is excellent.

Minnie Sanders (H. T., Elisha Hicks).—An excellent grower. Straight shoots, with big trusses of bloom. The buds are quite pretty—of Red Letter Day type, but scarlet rather than crimson.



AN ORANGE OPHELIA, ROSE MARGARET HORTON.

Blooms are bright red and do not fade. Very free flowering; it will prove a splendid bedding Rose.

Mrs. Henry Bowles (H. T., Chaplin Bros.).—A good grower, upright in habit, with heavy warm pink blooms, reminding us of the old Koningin Carola. A splendid exhibition variety, it being quite an exception to find a badly formed bloom. One of the best exhibition Roses of the year and well worthy of the gold medal bestowed on it by the N.R.S. judges.

Mrs. Hornby Lewis (H. T., Elisha Hicks).—Strong growth and a good shaped plant. Large, erect blooms, pale yellow, with deeper centres, rather flat in shape. Sweetly scented, but unfortunately not altogether mildew-proof.

Mrs. Oakley Fisher (H. T., B. R. Cant and Sons).—This really is a distinct novelty and as such worthy of a special reward. The plant grows strongly and keeps a good shape. The blooms are single and a rich orange-yellow similar to Lady Hillingdon. It should prove the most effective Rose for dinner table and home decoration since Irish Elegance was put on the market, and bids fair even to outclass that wonderful production. Everyone should grow Mrs. Oakley who loves a real decorative Rose.

Princess Victoria (H. T., S. McGredy and Son).—An excellent grower and very free bloomer. The plant when in bloom is most striking and a bed of them should be a veritable sight for the Gods. The shapely scarlet-crimson blooms shew up brilliantly amid the dark, glossy foliage. A real

gold medal Rose with an extra point for its fragrance. It should quickly prove to be the most popular Rose of the season.

Rev. David R. Williamson (Pernetiana, Pernet Ducher).—Good grower, with heavy trusses of blooms, which rather resemble Lyon, and are coral red, shaded lake. Sweetly scented and a free bloomer.

Rev. F. Page Roberts (H. T., B. R. Cant and Sons).—Strong, upright grower which seems to point to Duchess of Wellington parentage, although the shape of the blooms resembles Lady Plymouth. The blooms are very bright yellow, suitable both for exhibition and garden, and sweetly scented. Another really good new Rose which has justly been awarded the N.R.S. gold medal.

Ruth (H. T., J. H. Pemberton).—From its habit of growth, blooms, foliage and thorns this should rather be described as a Pernetiana than a H. T. Mr. Pemberton seems to have struck a new type here which should have a good future. It is a strong grower. The blooms are orange-carmine, but lighter than Miriam. Good foliage and sweetly scented.

Sammy (Hybrid Musk, J. H. Pemberton).—A cluster Rose of Grüss an Teplitz type, which it resembles closely, except that it is almost scentless. Very strong grower, but unfortunately subject to mildew.

Soyecourt (H. T., Jersey Nurseries).—Parentage is General McArthur × G. C. Waud. The growth resembles McArthur, being very erect, but the blooms are smaller with just a tint of G. C. Waud

colouring. A pretty, sweet scented buttonhole Rose.

Souvenir de Georges Pernet (Pernetiana, J. Pernet Ducher).—A very strong and erect grower of Mine. Edouard Herriot blood. Large, rather flat blooms, deeper coloured than Lyon. A free bloomer, but scentless. A fine addition to the Pernetiana class, to which the gold medal of Bagatelle was justly awarded after the Rose had been tested in the Paris Rose Garden over a period of two years.

Souvenir de Mme. Boulet (H. T., J. Pernet Ducher).—Strong branching growth and blooms carried well and erect. Dark yellow blooms resembling Mme. Ravary, but heavier and of better shape. The blooms last a long time in flower when the weather keeps fine, but they lose colour somewhat in wet. In the autumn the blooms are very similar to Lady Hillingdon. It should prove strong enough for exhibition.

Sunstar (H. T., Alex. Dickson and Sons).—Excellent bushy growth, with large trusses of blooms. A most effective bedding Rose, with a fiery combination of colour described as orange splashed with red. Quite an unique variety, but well remembered by visitors to the big rose shows, where it has been so often staged in baskets and nearly always secured the premier awards.

Toison d'Or (H. T., J. Pernet Ducher).—A good grower with nice straight shoots. Bright apricot yellow blooms shaded orange, but rather flat in shape. A very fragrant bedding Rose.

Una Wallace (H. T., S. McGredy and Son).—Vigorous upright growth, with blooms carried erect on long stems. Cherry rose colour, good foliage and free blooming. Although a gold medal Rose we should like to try it another season before finally pronouncing on its merits.

Waltham Flame (H. T., Chaplin Bros.).—Very vigorous grower with large trusses of bloom. The buds are pretty, blooms are semi-single and coppery salmon colour. A garden Rose, but unfortunately it seems to be subject to mildew.

Yvonne (Wichuraiana, Frank Cant and Co.).—The only climbing Rose of the season. Fairly strong, good glossy foliage and big trusses of light pink blooms, with yellowish base. Very fragrant. D deservedly awarded the gold medal of the N.R.S.

Yves Druhen (H. T., E. Buatois).—Parentage General McArthur × Château de Clos Vougeot. It has the growth of the former with blooms of the latter, rather a good combination. The half open buds are very pretty and the full blooms would appeal to those who love dark red velvety Roses.

Such are our first impressions of some of the new Roses of 1921, most of which are good, and others will doubtless improve upon acquaintance.

It would be difficult to select one to crown as the best new Rose of the year, but fairly easy to

select the best of each type or classification. Bedding Roses are perhaps the most popular and of these Princess Victoria must undoubtedly stand pre-eminent. Elizabeth Callen, Minnie Saunders and Souvenir de Georges Pernet are all second best, and well worth considering for new beds.

The singles we put in another category. Two of them would tie for first place, namely Mrs. Oakley Fisher and Ethel James.

Yellow Roses seem to be all in the fashion nowadays, and there are two new varieties for all round purposes—decorative and exhibition, viz., Rev. F. Page Roberts and Souvenir de Madame Boulet. Both should be grown.

Of high standard exhibition Roses, first awards will undoubtedly go to Mrs. Henry Bowles for a pink, and Earl Haig for a red.

The best new Dwarf Polyantha of the season is Coral Cluster, and the only climbing Rose Yvonne.

Finally, from the novelty point of view Sunstar stands first and will attract attention in every garden, while Ruth should not be passed without a reference.

I shall hope to complete the full catalogue of 1921 new Roses next season with the addition of Messrs. Hugh Dickson's, Bees', Wm. Paul's and others which were lacking this year, and thereby shall be able to pronounce better judgments on the whole year's productions. H. L. WETTERN.

PLANTING ROSE TREES

How to make the best use of various garden soils.

THE principal questions that immediately beset the novice in Rose growing are very much the same as in other gardening operations—the When and the How. At the moment varieties are no real worry: the beginner usually has already prepared a long list—far too long for his garden, of course—of varieties it is hoped to grow. This is soon modified. The nature of the soil does not at the moment seem greatly to matter, and in any case most gardeners have to take their garden soil pretty much as they find it. Yet on mature consideration the character of the soil is an important matter.

Roses are, or should be, of the nature of permanent occupants of the garden, and it is most important to give them as good a start in their new lives as possible. If mistakes are made with any of the plants in the hardy flower border, it is very disappointing, but not really serious. It can usually be remedied fairly easily, but when about to plant Roses at least as much care in preparation and selection should be taken as for fruit trees.

The ideal Rose soil is quite a heavy loam, if it approximates to clay so much the better. It is in gardens on such soils that the best exhibition Roses are grown. The admixture of clay to light soils, in order to make them more suitable for growing Hybrid Perpetuals and the larger Hybrid Teas, has been recommended, but the present writer, having tried the experiment years ago, has come to the definite conclusion that it is a decided mistake. There are great mechanical difficulties to be overcome, and although a great deal of labour was expended, the Roses objected, and the experiment was realised to be another of life's disappointed hopes.

In Rose growing one must bow to the inevitable to a great extent, and confine one's attention to the types of Roses that will succeed in the soil being dealt with. There are Roses suitable for all garden soils ranging from the very heaviest down to almost pure sand. Although the purpose of this article is not to give lists of suitable Roses

for various purposes, soils and situations, it may usefully be stated that most of the Wichuraiana and the Dwarf Polyanthas will do well in the very poorest of soils, while no one should hesitate to plant the beautiful Hybrid Tea varieties in soil of average texture. The owner of a garden in which the soil is moderately light, but good, and in not too cold a district is one of the enviable persons who could grow the wonderfully beautiful and deliciously fragrant Tea Roses to perfection. These most fascinating of all Roses are sadly neglected nowadays, yet in any of the few public gardens where they are grown they attract more attention than any other type. Although they thrive only indifferently well at Kew, the beds devoted to the delicately fashioned Tea Roses compel an immense amount of admiration during their long season of flowering. In that most successful rose garden at Chalkwell Park, Westcliff-on-Sea, there used to be, and no doubt still are, Tea Roses that delight thousands of visitors through the summers and autumns. The Teas are considered by some to be too tender for everyday use, but if on the approach of winter some soil is drawn up around the stems, the plants will survive very hard frosts. The branches are often killed, but then the next season's shoots are all the stronger for Nature's pruning.

The best position for Roses is the best position in the garden. Roses are not hole-and-corner plants; they demand and deserve the lightest, airiest and most sheltered place that can be given. Although the wild Rose is often found in natural woodlands, it is on the very outskirts of the wood that it thrives, and it flowers best on the sunniest side.

Although one must to great extent take the garden soil as one finds it, yet a deal may be done to improve it when it is not quite so suitable as may be wished. If the light soil can have the addition of a few loads of pasture loam, well chopped up and thoroughly mixed with it, the extra vigour of the Roses and the higher quality of the blooms will amply repay for the work. The best manure

is well decayed farmyard manure, and instead of placing this as a layer beneath the top spit of soil, it is of much greater value when thoroughly incorporated with it. Contrary to the idea which seems to be far too prevalent, the Rose is not a gross feeder, and layers of strong animal manure will do more harm than good. Where, as so often happens, one must literally deal with the soil as one finds it and it is not possible to add better soil, recourse may be had to chemical manures in order to provide sufficient plant food. Phosphates are most essential to the Rose's well being, and the cheapest artificial form is as basic slag. For a long time it was believed that basic slag was suited only to the heavy soils; whereas, if it is dug in sufficiently early, it is equally valuable on light soils, even when used for a crop of only annual duration, while its comparatively slow action renders it admirable for Roses. When preparing the beds or borders, basic slag may be dug in at the rate of 1 lb. per square yard on poor soils and at about half this quantity for moderate soils.

The value and necessity of lime has yet to be learnt in very many gardens. Great numbers of garden soils are deficient in lime, and unless this is present full value cannot be obtained from any manure that is used. At least ½ lb. of lime per square yard should be spread on the soil for Roses and be dug in.

Except in very heavy soils in cold districts, the greatest success in Rose planting is obtained when the work is done not later than the end of November. This autumn planting allows time for the bushes to become established before the next growing season commences, and root action is always better at this season, while the soil is still warm, than later on. If for various reasons the work cannot be done towards the end of October or during November, it can be carried on later whenever the weather is suitable. It should on no account be proceeded with when the soil is wet and sticky or during frosty weather. If the Roses arrive at such times it is far better to lay them in temporarily or even to place the bundles, still packed, in a frost-proof shed until conditions improve.

As has already been indicated, no trouble should be considered too great to ensure that the Roses are well and truly planted. When planting in a very heavy soil it is well worth while to have some prepared soil if only to sprinkle around the roots. Old potting soil will do admirably for the purpose and by its aid the roots can be properly covered and made quite firm. If the roots are at all dry, they should be dipped in water. All broken roots should be cut cleanly in an upward direction, and they should be spread out evenly and, even though the fingers are used, the soil must be placed well around each root. This may sound, and be, a tedious business, but attention to such detail is well worth while. The correct depth to plant can be seen by the soil mark on the stems, but if the soil is very light it is well to plant the bushes a couple of inches deeper than they were in the nursery.

The planting should be done quite firmly in all cases and in all soils. When planting early it is well to leave the surface of the soil around each Rose somewhat saucer-shaped in order to facilitate watering should this be necessary, but at the beginning of December this depression must be filled up, and it is usually wise more than to fill it and to have a little mound of soil around the stems of the Roses. At this season pruning is neither necessary nor advisable, though any unduly long shoots may be shortened in order that the bushes may not be blown about by winds. When planting late in spring, however, it is best to prune the Roses at planting-time. A. C. B.

CORRESPONDENCE

THE AZURE SAGE.

I WAS pleased to see a reference in *THE GARDEN* (page 526) to that fine plant, *Perovskia atriplicifolia*, and to hear that it occupies a place of importance in "The Master's" garden at Gravetye. The surprising thing about *P. atriplicifolia* is that one so seldom sees it, for it appears to be hardy enough for all but our bleakest districts and does not ask any more than ordinary well drained loam in a sunny spot. Even in places where the winters are severe enough to injure the growths the root will generally survive with a little protection and break away in spring like a hardy *Fuchsia*.

P. atriplicifolia belongs to the Sages and it is a sub-shrubby plant of some 3ft. high, the stems and leaves being almost white. The flowers are borne at the ends of the new growths in a spike several inches long and their vivid violet-blue in a woolly setting of white gives a most striking effect.

be as effective as a mass giving a range of shades that harmonise with Pink Pearl. Who, for instance, would prefer a bank of wild Dog Roses all exactly the same shade, or a meadow in Upper Teesdale, mauve with *Primula farinosa*, that did not show a subtle difference in tone between plant and plant on closer inspection! Perhaps in five years' time I would make many alterations after having had more experience with such things as *Eucryphia pinnatifolia*, *Rosa Moyesii*, etc., and if I could grow *Rhododendron campylocarpum* as I saw it at Edinburgh this year, and *Magnolia Soulangeana* and *Arbutus Unedo rubra* as they grow at Kew, they certainly would have to be included.—R. B. C.

MAY I add the names of another "twelve best shrubs" that flourish in my little garden at Dawlish: *Genista Dallimorei*, *Tricuspidaria lanceolata*, *Veronica Hulkeana*, *Chimonanthus fragrans*, *Berberis Thunbergii*, *Daphne indica*, *Fabiana*

question as to whether the Rose is full, thin or only semi-double is one of the most important points. If you could effect a change as regards this, I for one should be very grateful.—N. ROYDS.

[The point raised is an important one, but, of course, form in a Rose implies something more than a question of mere "fulness" or "thinness."—Ed.]

IRIS UNGUICULARIS SEEDING.

IRIS unguicularis (*stylosa*) flowered well here last winter, thanks to the hot summer of 1921. I brought the roots from Algeria some years ago, and though they produced a number of flowers at first, for several years none had appeared. I felt sure that the lack of flowers was caused by the roots not being sufficiently ripened, and last year's experience seems to prove this to be the case. In East Yorkshire, autumn is usually damp and chilly, so that plants requiring late autumn sunshine do not do well here. Last year the flowers on this Iris began to appear in November—I gathered some before I left for Italy in the middle of that month—and they were in full flower when I returned in February, and lasted till April. I have been interested in finding several ripe seed pods, and hope to succeed in raising some young plants, having already sown two or three pots, while other seed is still drying in the sun.—RUTH BICKERSTETH, *Cottingham, East Yorks.*

A LATE-FLOWERING AZALEA.

I HAVE read with interest the note on a late-flowering Azalea (*Azalea occidentalis*), in the August 19, 1922, issue of *THE GARDEN*, page 420. Thinking that you might be interested in seeing a photograph of the plant in its native habitat, I am sending a print to you herewith. This plant was photographed by me at Eureka, California. The gentleman in the photograph is the late Mr. C. W. Ward, who for many years was one of our leading Carnation growers and also the proprietor of a nursery at Queens, Long Island, as well as Eureka, California.—PETER BISSET, *Plant Introducer in Charge of Experimenters' Service, Bureau of Plant Industry, Washington.*

THE ELSCHOLTZIA.

FOR several years a plant of *Elscholtzia Stauntonii* at Castleford, Chepstow, has attracted a good deal of attention from visitors during the months of August and September, when it is usually in bloom. It is a semi-shrubby plant, and forms a bush about 4ft. across and 2ft. high when it is in flower, but during the winter months the growths die back to the extent of 1ft. or 1½ins. In the spring it begins to grow again, and pushes up leafy shoots, which eventually bear large spikes of carmine-pink flowers. Individually these are small and crowded, but a well grown plant is quite effective and worthy of a place near the front of a shrubbery or where it will be fully exposed to the sun. Plants in shady positions are not nearly so good, the growths being too weak to support the flower-spikes. It is quite hardy, and was introduced from China in 1900. This plant belongs to the Natural Order Labiate, and the leaves when crushed in the hand have a mint-like odour. It may be propagated by cuttings made from the young shoots, and these soon form roots if placed in a cold frame or cool greenhouse.—F. W. B.

CUP ANOMALIES OF THE ROYAL HORTICULTURAL SOCIETY.

ON page 533 of your issue of October 21, Mr. Elisha J. Hicks raises a just query as to who won the Wigan Cup. This brought to my mind the position of the East Anglian Horticultural Club in



RHODODENDRON (AZALEA) OCCIDENTALE IN ITS HOMELAND.

These flower shoots are excellent for cutting and the blossoming season extends from the end of summer well into autumn. The whole plant has the odour of Sage.—N. W.

THE TWELVE BEST SHRUBS.

REFERRING to your correspondent's letter on page 507, my list would include *Rhododendron Nobleanum*, *Hamamelis mollis*, *Ribes sanguineum*, *Prunus triloba* fl. pl., *Rhododendron racemosum*, *Berberis Darwinii*, *Berberis stenophylla*, a good Lilac, *Rhododendron Pink Pearl*, *Robinia hispida*, *Escallonia langleyensis*, *Cistus laurifolius*. This list is based on twenty years experience in a North-umberland garden situated on the side of a hill about 500ft. above sea level. The names are given more or less in the order of flowering, and *Rhododendron Nobleanum* and *Hamamelis mollis* are only included on account of their early blooming. *Robinia hispida* is perhaps more of a tree than a shrub, but in an exposed situation is only suitable when grown as a shrub. Although these are all suitable for massing, it does not follow that a mass of such as *Rhododendron Pink Pearl* would

imbricata, *Diplacis glutinosus coccineus*, *Magnolia nigra* and *stellata*, *Leptospermum Nicholli*, Heaths (*Ericas mediterranea* and *Veitchiana*), *Melianthus*—VIOLETT C. BENTINCK.

I HAVE read with much interest the lists of twelve best shrubs. Here, on stiff loam with lime, the best seem to be: White Mezereon, Double Peach, *Prunus Pissardi*, Crab John Downie (equally beautiful and useful for fruit), *Forsythia suspensa*, *Berberis stenophylla*, Lilac Mme. Lemoine, *Choisya ternata* (which blooms twice), *Spiraea japonica*, *Crataegus Pyracantha*, *Arbutus Unedo*, *Viburnum Tinus*. The evergreens are decorative at all times of year. I hope to try *Viburnum Carlesii* and *Eucryphia pinnatifolia* this autumn, but am told the latter dislikes lime.—E. HUNTINGFIELD.

THE FORM OF ROSES.

IT is much to be regretted that in notes on new Roses the form is so often omitted. Even in the National Rose Society's Official Catalogue it is not mentioned, and yet to many of us the

respect of the challenge cup for hardy fruits—open to affiliated societies. In 1920 the East Anglian Club won premier position and I think brought the cup home, to the pride of its members. In 1921 they secured the coveted position again out of four entrants, but neither had the cup nor any compensating award. This year they did not think it worth trying for again, and perhaps other societies were of the same opinion, for there was no entry in the class. What I should like to know is, where is the cup and who is designated the holder?—HERBERT PERRY, *Norwich*.

[No doubt, as there was no entry this year, the R.H.S. have retained possession of the cup and will offer it again next season. The rule that certain cups must not be won two years in succession by the same exhibitor is, in our view, thoroughly bad, but the cups are doubtless disposed of according to the wishes of the donors and there is an old adage about "paying the piper and calling the tune."—ED.]

AUTUMN FLOWERING OF BEARDED IRISES.

IT is not unusual for some varieties of Iris to flower again in the autumn. Peter the Great has been in flower since September 20, and will

full beauty. It is a vigorous plant, and is quite hardy in most parts of the country. No doubt it is the finest of the Abelias which are suitable for outdoor cultivation. It is readily increased from cuttings, and they will form roots at almost any time of the year.—B

A GROUP OF HYDRANGEAS

I ENCLOSE a photograph of a group of the common Hydrangea, *H. hortensis*, growing in these gardens. They always flower well, but I have never seen them flowering so freely as this year. The unusual wealth of blossom may probably be accounted for by the thorough ripening of the wood caused by the heat and drought of last year. The two tall middle plants have been in their present position for about twenty-five years; they are between 8ft. and 9ft. in height and nearly as much through. The end plants were put in about ten years ago. They are protected on the north side by the fern house shewn in the picture, on the east by a large Yew, but are fully exposed to the south and south-west. They receive no attention beyond cutting off the dead flowers and shortening back any growth that may have encroached too far over the Rose bed in front. They get nothing in the way of

Mimus aurantiacus. There are several forms or hybrids of *D. glutinosus*, and they vary in colour from shades of red to yellow. No doubt this plant would be destroyed if the winter was a severe one, but it is well worth the trouble to replant it in the more favoured parts of the country. It is readily increased from cuttings, which will root at any time during the spring and summer months. A few plants could be accommodated in the cool greenhouse, to take the place of any that are destroyed by frosts. Anyone who has seen a healthy and vigorous plant outside with its wealth of bloom spread over a long period will be inclined to despise it as a pot specimen with its restricted root run and somewhat starved appearance.—T. W. B.

THE CULTURE OF THE SILVER BERRY.

THAT beautiful species, *Eleagnus argentea* (not to be confused with *Shepherdia argentea*) is one of the most silvery bushes that it is possible to conceive and the tubular yellow daphne-like flowers are as pretty as they are fragrant. But although I have had this species sent over from Canada and also got plants from an Irish nursery, it does not seem to be happy in our hands. Can any reader tell me what it needs? On the prairie of Saskatchewan it is mainly confined to the higher levels, or knolls, where the soil is comparatively dry and deficient in humus and there it grows in masses, spreading by means of suckers, which, latter, I am told are not so apparent in cultivation. The farmers over there call it "Wolf Willow," but it is also known as "Silver Berry," since the fruits, in common with the twigs and leaves, appear as if dipped in aluminium paint.—A. T. JOHNSON.

FOR A SUNNY CORNER.

THAT little Daisy-like thing, *Erigeron mucronatus*, is surely the most cheerful Southerner that ever found place in our gardens. The weather has so little effect upon it that a group of plants have flowered no less abundantly during this cold and wet season than they did during the torrid heat of last summer. Normally, *E. mucronatus* (more properly, *Vittadenia australis*), makes a rounded mass of thin and elegant stems some gins. high and a foot or more in diameter, and throughout summer—from the end of May to the first frosts of autumn—it bears a profusion of pretty Daisies which open a good deep pink and die-off white, so that flowers in both colours and every intermediate shade are open at the same time. No plant that I can call to mind yields such a constellation of blossoms for so long a period and, what is more, *E. mucronatus* never seems to grow weary of this "mass production." The blooms which pass away leave no unsightly remnants behind them, there is no shabby period, no "running to seed." The plant is as clean and bright and full of life and colour at the end of October as it is on Midsummer Day. All that this amazing little plant asks is a free, warm, gritty soil and "a place in the sun," and there it will freely propagate itself by seed.—CAMBERG.

ARALIA CHINENSIS.

THIS Chinese shrub with its sub-tropical look never fails to arrest attention. It is not much in evidence in gardens, more especially north of the Tweed, it not being regarded—and that rightly—as quite hardy. The ideal site for it is a well drained, sheltered spot. It was therefore a pleasant surprise to me when on a visit to Perth in September to find quite a good specimen of it in a villa garden at a high altitude and in an exposed situation in Craigieknowe, a suburb of the Fair City. Doubtless the perfect drainage was an important factor in its welfare.—C. C.



SOME FINE "CHANGEABLE GARDENERS."

continue for some time yet it not cut by frost. The flower-stems are not so high as those produced in spring and the flowers a little smaller, but there are a goodly number and the effect is quite pleasing. The following have also flowered, but not so well: *Crimson King*, *Florentina alba*, *Louise* and *atropurpurea*. I have noticed that this autumn blooming habit does not appear to prejudice free blooming in spring.—G. N. B., *Maidstone*.

A LATE-FLOWERING SHRUB.

FLOWERING shrubs are none too plentiful during the months of September and October, hence the reason for calling attention to that delightful plant *Abelia grandiflora*, which is still a mass of its pretty, almost pure white flowers. I have had the same plant under the names of *A. rupestris* and *A. chinensis*, but no doubt the above is the correct name, and it is stated to be a hybrid between *A. chinensis* and *A. uniflora*. It is evergreen and from 4ft. to 5ft. high, and the slender, arching growths are covered with bloom. The leaves are a shining dark green, and the general habit of the plant makes it desirable for an isolated position where it can develop its

manure but a little soil is thrown over the dead leaves that drift under them during winter. They generally commence flowering in July, but, like other things on this East Coast, were very late this season. I noticed the first open flower of the *Belladonna Lily* on October 9. Last year the plants were in their full beauty by the end of August. I might say that we are situated about a quarter of a mile from the coast, with no protection whatever between us and the sea.—H. REYNOLDS, *Scrabby Hall Gardens, Great Yarmouth*.

DIPLACUS GLUTINOSUS.

IN most parts of the country this pretty shrubby plant is cultivated under glass, but in mild localities it is well adapted for a warm corner with a south aspect. A plant at Castleford, Cheshire, has been blooming freely throughout the summer—in fact, so long as conditions are favourable to growth the shoots continue to produce flowers. It is a native of California, and will attain a height of 5ft. The flowers are salmon colour, and greatly resemble those of *Musk*. This plant is also known as *Mimus glutinosus*, and it was figured in the *Botanical Magazine* as

DEUTZIAS FOR THE COLD GREENHOUSE

THOUGH perfectly hardy shrubs in the ordinary sense of the word, many of the Deutzias are worth protecting, particularly the varieties or hybrids of *D. gracilis*, which commence to unfold their leaves and flower rather early in the season. Spring frosts, although they seldom entirely destroy the beauty of the bushes, frequently considerably impair it. Certainly, if allowed to develop under glass, protected from winds and rains and sudden rises and falls of temperature, the blossoms are usually seen to much greater advantage. Under glass also, even without artificial heat, the flowers open in advance of those outside.

The cultivation of the bushes in large pots or tubs presents no difficulty. This is preferable to

D. GRACILIS is pure white; var. *erecta*, has upright branches wreathed in snow-white flowers; var. *fastuosa*, long inflorescences with twenty to twenty-five flowers, milk white; and var. *rosea*, pink-tinted blossoms.

D. CRENATA *eburnea* has light and graceful clusters of white flowers in profusion; var. *erecta*, is more upright in habit, producing pyramidal clusters of large milk-white flowers; var. *formosa* is one of the best double-flowered sorts, pure white; var. *latiflora* has large white flowers 1 in. to 1½ in. across and fifteen to twenty together in upright panicles; when var. *magnifica* was shown at one of the Royal Horticultural Society's meetings this profuse flowering pure white variety was given an award of merit; var. *staphyleoides* is one of the largest white-flowered Deutzias.

D. BISCOLOR *elegantissima* has carmine buds opening to dainty pink blossoms; var. *excellens*

has been called the crataegus-flowered Deutzia, one large flat corymbs of blossoms closely resembling those of the Hawthorn; var. *fasciculata* has arching branches of pale pink blossoms. The fine *D. Wilsoni*, pure white, is closely related.

After flowering the aim should be to obtain as much new growth as possible, as the wood now formed will produce next season's blossoms. Remove as much of the old flowering wood as possible when the flowers shatter, seeing that some, at least, of the oldest branches are cut out to the base each year. Copious supplies of water and liquid manure may be given when growth is active. When placed outside in June a little shelter from the brilliant mid-day sun may be worth while at first, but by August, when growth should be complete, they should be moved to fully exposed positions in order thoroughly to ripen the wood. A. O.

THE TOWN GARDEN

How to make and maintain it satisfactorily

A NEW interest and a changed outlook on London life is surely dawning in the advent of a *bona-fide* garden of one's own into which it is but a step from the house through some connecting doorway. Even if the available space be of so small an area as 40ft. by 20ft. or even less, this desirable possession can be quite successfully acquired, especially if the walls on either side are not too high.

First, it is well carefully to take down any creepers that may be already on the walls and to erect a wooden trellis painted green, taking care, also, to run wire netting all round the outside walls and reaching quite 2ft. above the top of them in order to exclude cats, after which the creepers should be carefully trained to the trellis and netting, and at once one gets a pleasant background for the garden proper.

There is no doubt that a stone-paved court with spaces between the stones in which to grow rock plants, with shaped flower-beds next the walls, is far the most effective, practical and picturesque way of treating the London garden.

It is a mistake to consider that there are all-pervading smuts, that one cannot sit in a "London dress" on the garden seats without getting the benefit of them; it is a mistake to think that, whatever one plants, it will stay unwillingly for a few days and then die off; it is a still greater mistake not to make an intelligent study of what will flourish in London in the aspect and the soil it has to be planted in. The "self-faced" paving now in vogue is admirably suited to these small spaces, and every flower and every leaf growing near it cannot fail to "tell." The initial expense of laying it down is well worth while, for it makes it most easy to be one's own gardener with very little extra help once the garden is arranged. I can only speak by experience, and I think many will be encouraged to acquire that precious possession—one's own garden in the heart of a great city.

We cannot easily forget arriving just as our house was being finished, its exterior and interior fresh and charming, when behold! our eyes rested on a scene of perfect desolation without. Grimy walls, grimy gravel, the dreary remains of aged flower-beds, old boxes, even concrete slabs—40ft. or so of ugliness.

We felt this terrible state of things must not continue, and forthwith set to work to call in aid as to planning, paving and trellising, and for this I strongly recommend expert advice, especially for the inexperienced. One saves time and money

thereby. We began operations in the spring of this year, before Nature had covered up ugly walls with the leaves of Vines and creepers which, indeed, were mercifully there, and at a season when no garden looks its best, especially if there has been the tramp of many feet over it and a litter of tools cast in every direction! After this depressing picture let me describe what we found on another return in early autumn after only a few months' planning and watching for results, for we left the garden for many weeks with only an occasional hour's attention from a visiting gardener.

The Fig tree has now mellowed into gold and green, its outstretched "hands" or leaves will not long be uplifted but cast down. It is still pleasant, however, to sit under the branches at the end of the garden, to hear the pigeons cooing and a neighbour's bird singing, and to see the bunches of Grapes ripening on our Vines. The great Peony-flowered Dahlias are over 6ft. high with blooms measuring half a yard in circumference, mauve, scarlet, white and wine colour—a gay company! We wondered when they were planted in early summer whether they would ever grow up! Here the bees have come, how and whence I know not, and clustered busily where the Dahlia has opened its heart. The mauve stars of the Michaelmas Daisies are spangling the garden, and golden and Bronze Chrysanthemums are aglow in the sun's rays. The white and purple Thymes have finished flowering, but they grow apace, and are now like green mats flung on the paving stones. The Violas, too, have done their flowering, but are making good with further green shoots and filling up corners, as are the double pink and white Daisies, which have sown themselves in the crevices of the stones all about the garden. Watch must be kept, of course, for caterpillars.

The Jasmine, which was a small plant put in early in the summer, has now climbed high over the fence, and a little Rose tree is covered with late bloom. Stone vases and green tubs stand about here and there, two of them occupied by frilly petticoated carmine and white Fuchsias which have flowered all summer long. Now let me say a word about watering. However much it rains, always see that plants in tubs and such like do not get neglected, for no rain will penetrate under them.

In talking of autumn effects in our little garden, I like to point out that it is not only bedding-out and easily removed plants that flourish—those



THE PURE WHITE DEUTZIA WILSONI.

planting out in the borders, as it is not only better for the health of the plants to be outside from June to January, but leaves the house vacant for other plants.

A fibrous loamy soil is the best for Deutzias, with the addition of some old decayed manure, leaf-mould and coarse grit. Repotting, or tubbing, of the bushes should not be necessary for three or four years, if a top-dressing of rich soil, or half loam and half rotten manure, be given annually in January, after removing some of the surface soil. The smaller plants can be readily grown in 6in. and 7in. pots.

Increase by division, layering and cuttings provides easy means of propagation. Cuttings made of the half-ripe shoots about midsummer root readily in a close frame or under bell glasses.

A selection of the best for flowering in the cold greenhouse follows.

that are with us, as it were, on a visit—but that it is those that are *here to stay* that win our special affections, the climbers and such herbaceous things as are suited to our conditions.

Not the least charm of all is that real atmosphere of a garden one can get even in so small a space as ours. Where else can we go out into the open air, hatless and gloveless and undisturbed! Think of the blessing of this to a busy city man, a Member of Parliament, or to anyone pursued by conventionalities and obliged continually to acknowledge the greetings inseparable from public life, or, again, to the tired woman-worker whose avocation condemns her to stuffy studio or class-room.

Never do we return to London in the autumn without a pang of regret at turning our backs upon river, mountain, moor and lake and all the wonderful beauties of Nature at her loveliest—yet am I bound to say that this year grey skies and soaking countryside and the breaking down of a motor miles from anywhere took the glamour from the scenery. Next day, however, the bright sunbine, the gay colour in the brilliant flowers, the quickly dried paving stones and inviting garden seats made us feel that we can indeed "get almost everything in London."

I remember years ago being asked by my host at luncheon, "What do you think of my garden?" (this a small space behind his London house). "I have planted a Fig tree!" There was, it is true, one occupant of the said "garden," a drooping Fig tree thoroughly resenting its transplantation. Those were early days for London gardens, but I felt so disappointed at the efforts of a really distinguished naturalist that I answered, I am afraid, in a rather uncomplimentary tone, "I think it reminds me of what is said in the collect, 'By reason of the frailty of our nature we cannot always stand upright.'"

Do not put too severe a strain upon your tree or plant, and always transplant it at the right time, if possible in early spring in London rather than late autumn. Get good specimens, do not rely on cuttings or seeds (experiment with them if you like!). Do not be content with "bedding-out," for the charm of such a garden is much in its setting, that is, in the things that really *grow* and flourish. Never expect plants to flourish under the drip of trees. Here is where pavement comes in, and the effect of sunlight on it, flickering through the trees, is very attractive. There is always something to do when one walks round. One can cut off all dead flowers, especially from the *Violas*. They will then remain in flower very much longer, and they flourish amazingly with us, as do *Pentstemons* also, and *Catmint* London Pride from its name association should find a place, and many other *Saxifrages* too. Many plants that have not spongy leaves and do not hold the raindrops prosper. Even the most unlearned amateur may hope for a gorgeous display of *Tulips* and other bulbs in spring if they plant betimes in autumn.

In the depth of the winter also it is pleasant to look out on formal clipped shrubs, some of them in stone vases, and perhaps a lead figure placed attractively or a sundial. In our Fig tree hangs a green bird-box for tit-bits to be served on cold winter days when natural food is scarce.

To a small house what an addition it is to have, as it were, one large room with the heavens for ceiling, open air for refreshment, and numberless flowers for one's delight! Instinctively one walks out after luncheon or dinner, when the coffee appears on the green table under the tree, a nice country interlude in the day.

Across the road the earliest greenery is to be seen in the gardens of Cadogan Place, so we hope to respond with bright echoes of purple and white *Aubrietia* and *Arabis*.

HILDA HAKING.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Rhubarb.—As an article of food during the spring months Rhubarb is extremely valuable. It can be well grown without a too frequent disturbance on a deep and somewhat sandy loam. Where it is freely used it is a good plan to deal with a portion of the roots every three or four years, and to have the ground in good heart for spring planting, it should be thoroughly dug during the winter and have plenty of manure worked in as the work proceeds. It will be an advantage to have the Rhubarb plot marked off into sections so that newly planted roots and those intended for forcing purposes may be treated accordingly. From now onwards the roots will easily respond to growth provided they are lifted and left on the ground for a week before taking them into a Mushroom-house or warm cellar. Wherever they are accommodated plenty of old leaf-soil should be placed round them and the roots kept uniformly moist. Failing any inside accommodation for early Rhubarb, some deep boxes or pots should be placed over a few roots outside and then be completely covered up with leaves and straw litter to a depth of about 3ft. This method has the great advantage of not causing any waste of roots, as they soon recover to their normal strength after forcing in this manner.

The Flower Garden.

The Torch Lily, or Flame Flower, greatly appreciated last season's warmth, which ripened up the crowns so well, and the result is that in many places this season, although the weather has been most unsettled, the plants have done splendidly. It is not a happy plant for a mixed border, but should be boldly grouped in front of a shrubbery or near a streamside walk, where, perchance, a group of Grasses or other autumn feature may give its stateliness and rich colourings even greater dignity. Where owing to a cold soil there has been a loss of plants during the winter, it would be helpful when severe weather approaches to tie all the foliage up to a stake and to interlace plenty of dry bracken fern, covering the root stools with it at the same time.

The Rockery.—Alpines of a hairy leaf nature liable to suffer from dampness should now be protected by having sheets of glass or horn placed over them and the same securely fastened so that the wind cannot displace them. Any alterations either in the way of additions or remaking are best carried out during autumn and winter as opportunity offers. Keep the undisturbed part of the rockery free from weeds and falling leaves, and give the soil a light pricking over if it has become soured.

Tub Plants, such as *Agapanthus*, *Hydrangea*, *Bay*, etc., which have occupied positions out of doors during the summer should now be got into winter quarters, such as a frost-proof shed or a cold house. The interlacing of boughs of spruce or bracken fern is of great help in wintering shrubs safely, and it should be remembered that dampness is often a greater enemy than frost for many resting plants and roots.

The Hardy Fruit Garden.

Crab Apples.—Do not overlook the planting of these very useful and exceedingly handsome fruits. The spring beauty of the trees when in flower is quite equal to many of the so-called choice shrubs, and in many cases this is followed in autumn by brilliantly coloured fruits, giving them a splendid appearance when well placed in a shrubbery or in suitable positions in the pleasure grounds. It is, perhaps, hardly necessary to touch upon the excellent properties of the fruits for making jellies, etc.

Damsons.—The wonderful crop of these fruits in most districts this season only tends once again to enhance, if such is necessary, their great value as a culinary and preserve commodity. Another great point in their favour is their lateness in coming to maturity, thus prolonging the stone fruit season by several weeks. On account of their hardiness Damsons may be safely, and with advantage to other fruit trees, planted as guard trees, that is, placed on the coldest side of the fruit plantation. In making a selection of varieties the more recently introduced variety known as Merryweather should certainly be included.

H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

General Work.—During inclement weather advantage may be taken to look over Potatoes that are stored in cellars or sheds, removing all shewing signs of decay. Where seed was not secured at the lifting period, opportunity may now be taken to lay aside the necessary quantity, placing in shallow boxes and storing in an airy frost-proof shed. See that the varieties are properly labelled and thus save confusion when planting-time comes round.

Turnips.—Roots of the Golden Ball variety should now be lifted and stored, as they become overgrown and stringy if allowed to remain longer in the ground. Store in an open shed and cover with straw, when they will be found to remain fresh and crisp for a considerable period.

Autumn Giant Cauliflowers.—These popular Cauliflowers are often in good usable condition well into November, provided no very severe frosts have occurred. To save the curd from being unduly discoloured a careful survey should be made of the plants and a few leaves broken over the flowers. If well placed these also ward off heavy rains. Where the plants are turning in quickly, as they often do during a mild spell, a number may be uprooted and hung up by the roots in a cool shed, where they will be found to keep in serviceable condition for several weeks.

The Hardy Fruit Garden.

Planting Fruit Trees.—Early planting is to be commended, as the trees readily push out a few young roots at this time which allow the trees to make a more generous start in the spring. When the ground and weather conditions prove favourable, no time should be lost immediately the young trees come to hand in having them transferred to their permanent quarters. Should the roots have become dry on the journey, give a thorough soaking before planting. Spread the roots out evenly before covering in, and should the natural soil be cold or of a clayey nature, add a goodly dressing of light fibrous turf. For stone fruit the addition of some lime rubbish will prove beneficial on ground where lime is naturally deficient. Cut away all damaged or broken roots and make standard trees firm by staking. The latter operation is best done immediately after planting is finished.

Raspberries.—Where it is proposed to make new plantations or replace unfruitful or worn-out canes the ground should be well prepared beforehand. As Raspberries usually occupy the same position for a number of years, generous treatment should be accorded the site. The soil should be double-dug, taking care not to bring the under spit to the surface if it is at all clayey. Raspberries are essentially surface-rooting plants and enjoy a fairly light soil suitably enriched. Popular varieties for summer fruiting are Superlative and Baumforth's Seedling, while a new sort noticed this season named Pyne's Royal carried a wonderful crop of excellent quality. It also proved of vigorous growth. Established beds should be lightly forked over and a surface dressing of well rotted manure added.

Fruits Under Glass.

Strawberry Plants in Pots.—Pots of these which have been standing in the open will now benefit by being removed to the shelter of a cold frame, plunging the pots to the rims in ashes or leaves. Ventilate freely during fine weather.

Peach Trees.—After the leaves have fallen from the trees the work of pruning and thinning the shoots may be taken in hand. At the same time the house should receive a thorough cleansing. After the pruning is finished gather up the remaining shoots and tie them loosely together so that room may be made for washing the glass and woodwork, which should receive most careful attention, especially where, during the summer, red spider was troublesome. The walls should also be limewashed, or should the spent material from the acetylene gas plant be procurable it will prove an excellent substitute, being adhesive and also acting as a disinfectant. It does not scale off like ordinary lime or cement wash. After the work of cleaning the structure, the shoots should also be sponged with an approved insecticide, being careful to see that it is not applied strong enough to injure the buds. The older branches may be washed with a stronger solution.

JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

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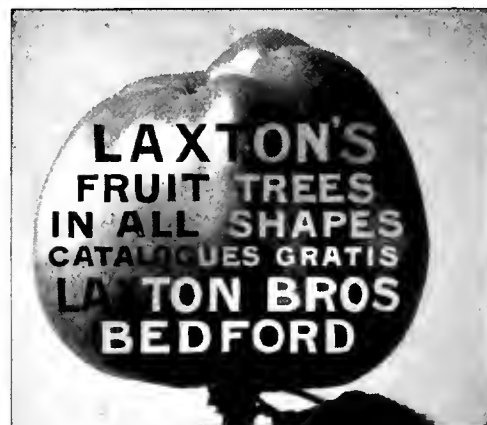
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SUMMER COLOUR IN THE SHRUBBERY

THE average shrubbery is lamentably short of summer colour. The great bulk of flowering shrubs blossom in or near the month of May. Many garden-lovers greatly appreciate the massed colour of Broom, Gorse, Barberry and Lilac, which each spring affords and are loath even to water this effect to admit of summer colour. For ourselves, we think this a mistake, believing that a sufficiency of colour to please almost anyone may be obtained in spring and yet far more of summer interest be introduced than is generally the case. One very satisfactory way of introducing summer colour is by planting drifts of herbaceous plants among the shrubs. This point has been recently dealt with in our columns. There is no necessity, therefore, to traverse that ground on this occasion.

The most striking of late-summer-flowering shrubs is undoubtedly *Buddleia variabilis*. There are several distinct forms of this which, in the garden, intercross freely, so that if self-sown seedlings are allowed to mature one soon has a whole constellation of slightly differing forms which, as a rule, are little, if at all, inferior to the parent plants. All are beloved of coloured butterflies and other insects. The best and most distinct forms in commerce are called respectively *Veitchiana*, *magnifica* and *superba*. *Veitchiana* resembles, as far as flower-colour goes, the original and very inferior form first introduced to English gardens, but is much finer in habit of plant and as regards size of truss. *Magnifica* is much more violet of hue and perhaps, of the two, the more desirable. *Superba* is somewhat like *magnifica*, though slightly paler in tone, fatter and larger of truss and, distinct advantage! quite a fortnight later to flower. It is usual to prune these *Buddleias* very hard in spring, removing

all old wood and cutting back the young to a few eyes, exactly as one treats *Hydrangea paniculata* in fact. Such pruning undoubtedly tends to produce extra fine blossom trusses, but is not essential. The plants make enormous growth and flower freely and handsomely if left quite unpruned. Readers will appreciate that for some situations plants should not be too sophisticated.

As *Hydrangea paniculata* has been mentioned it may be as well next to consider the *Hydrangea* family, for its members are all summer-flowering and exceedingly valuable in the garden. The sterile form of *Hydrangea paniculata*, *H. p. grandiflora*, is the member of the family most commonly met with in gardens, though the typical *H. paniculata* is more graceful, and *H. arborea* far

provocation is necessary for the coloured forms to come blue. They are then most welcome, as blue shrubs are scarce. The deep coloured forms are especially worthy, and, seen among the changing lights of woodland, are very beautiful. The pure white forms are not to be despised, however, and the fine trusses of *Mme. E. Mouillière* are particularly noteworthy. Closely related to these *Hortensias*, and probably rather hardier, *H. japonica* is well worth growing where it will "stand" outdoors.

Hardy *Fuchsias* are a general standby for summer blossom. Only near the coast do they retain sufficient wood through the winter to be treated as shrubs, but they break from the bottom each spring in all but the very coldest localities. Most of them are forms of *F. macrostemma* and differ mainly in

the size of the plant and its component parts. *F. Riccartoni* is, many think, hardiest of all, but it is less free flowering than the *macrostemma* forms. The red and white hybrid *Mme. Cornelson* seems hardier as a shrub than the supposedly hardier species and sub-species, but it shews less power of recovery if cut to the ground.

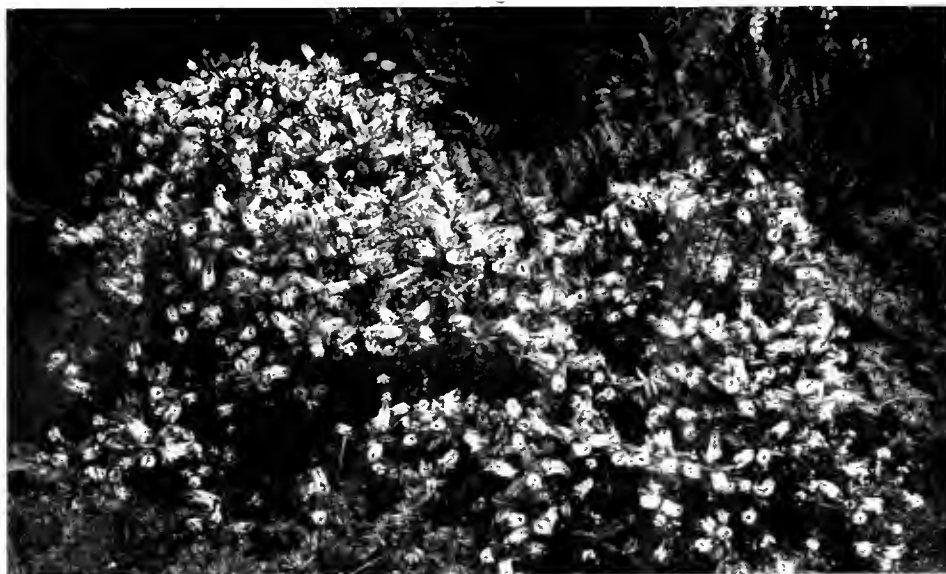
The shrubby *Veronicas* are exceedingly valuable for summer flower. Like many races of plants from the Antipodes they are suspect as regards hardiness. Several species, however, are equally as hardy as many other regular inhabitants of our shrubberies. *Veronica Traversii* is perhaps sufficiently showy to be worthy of notice as summer flowering,



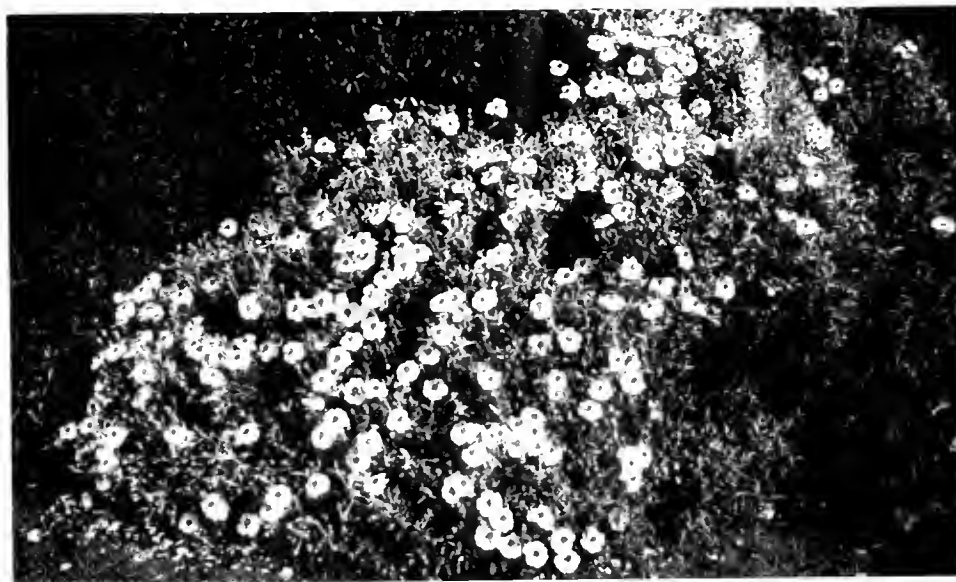
A SPRAY OF *EUCRYPHIA PINNATIFOLIA*.

more floriferous. This latter is not white, however, but a greenish cream colour, effective none the less in the mass and admirable associated with crimson *Fuchsias* or with *Buddleia variabilis* or purple *Veronica*. In the southern counties or near our seaboard the now numerous forms of *Hydrangea hortensis* prove hardy. On some soils no

though it lacks, of course, the grace and beauty of the far less hardy *V. Hulkeana*. This latter withstands average winters outdoors in the Midland Counties, but except in the moister and more congenial climate of the West, does not properly develop its lavender panicles outdoors. There are now many beautiful forms and hybrids of *Veronica*



VERONICA DIEFFENBACHII WITH PURPLISH FLOWERS.



A FREE-FLOWERING ROCK ROSE, CISTUS CRISPUS. THE BLOOMS ARE PURPLISH ROSE.



A RATHER UNCOMMON BROOM, GENISTA CINEREA.

speciosa, but this is a tender species, though a quick growing and easily propagated one. It stands outdoors, however, unless in exceptionally severe winters, anywhere south of London and, naturally, anywhere near the sea. The crimson Simon Delaux is especially beautiful, so is the wonderful violet blue Mlle. Delaux, but there are many other charming varieties. The nearly related *Veronica Dieffenbachii*, now illustrated, has purplish flowers and withstands about the same amount of inclement weather. Perhaps the most striking of these shrubby Speedwells is the aptly named *V. salicifolia*, for the leaves do indeed resemble those of some of the true Willows—*Salix vitellina*, for instance. The rather twisted spikes of pure white are large in themselves and abundantly produced and shew to advantage against the glossy foliage. This very hardy species reproduces itself freely from self-sown seeds. Somewhat like this species, but much smaller, is *V. angustifolia*, which forms neat little bushes for the forefront of the shrubbery. Species smaller than this need not be considered here for they pertain rather to the rockery than the shrubbery. There is a multitude of hybrid forms, however, with more or less claim on our attention. Among these is the deep violet, semi-prostrate Autumn Glory. This is free to flower and produces a succession of blossoms, but the individual spikes are very small. It hybridises freely (and without artificial assistance) with *salicifolia*, *angustifolia*, *pinguifolia* and the *speciosa* forms, and many of these natural hybrids are quite beautiful. Given the opportunity it would probably hybridise with *glaucophylla* and other small species and possibly with *V. Traversii*. *Veronica Andersoni* is said to be a cross between *V. speciosa* and *V. salicifolia*. Its variegated form is one of the handsomest of variegated shrubs, but, unfortunately, even less hardy than the forms of *V. speciosa*.

The beautiful *Euryphia pinnatifolia* is generally supposed to like peaty soil—but it will grow even in stiff clay! This glorious shrub (or small tree) is, unlike the *Buddleias*, for instance, quiet and restrained in its beauty, but amazingly attractive. There are those who think *E. cordifolia* even more beautiful—high praise indeed. This species is, however, hardy only near our seaboards, whereas *pinnatifolia* seems hardy everywhere.

Some little while ago we published an article on late-flowering Brooms (July 15, page 349). The best are, no doubt, *Genistas atrensis*, *cinerea* and *virgata*, and *Spartium junceum*.

If the hardy Heaths had no other claim to consideration the fact that a number of species and a multitude of varieties flower in summer would make them useful for the shrubbery where the soil is at all suitable for their culture. The Heaths are too big a family to be dealt with at all comprehensively in such an article as this, so that an almost bald list of a few of the better sorts must suffice. The Cornish Heath is exceedingly valuable on account of the long period during which it remains in flower. The choicest form, *Erica vagans* St. Keverne, with salmon blossoms, is still scarce. The varieties *alba* and *grandiflora*, though rougher, are quite good. *Erica cinerea* flowers earlier, but some varieties, notably the compact *coccinea*, are very brilliant. Var. *atropurpurea*, of a deep reddish purple hue, is also valuable and a robust grower. There is, too, a pure white variety. The cross-leaved Heath, *E. Tetralix*, though a very common wilding, is valuable for massing. The variety *mollis* is very distinct and remarkable, with white flowers and greyish white foliage. Mackay's Heath is closely related to the last species. It is a handsome rosy-red sort. There is a double form of this, said (Bean, "Trees and Shrubs") to be longer lasting than the type.

To be concluded.)

PROGRESS WITH THE BEARDED IRIS

BY JOHN C. WISTER, *President, The American Iris Society.*

I HAVE had the pleasure this year of revisiting a number of the chief Iris gardens in France and England and of seeing the great improvements that have been made in them in the past three years. The nurseries and gardens are now again in first-class condition, and the Iris breeders have produced many new seedlings of surpassing beauty.

The reason, or rather the excuse, for my trip was to attend the Iris Conference in Paris on May 27. On the day of the Conference a number of fine new varieties were shewn, the best probably being some of the new seedlings from Cayeux and Le Clerc. Three of these—Belisaire, Jean Chevreau and Grand Ferre—received certificates of merit, and they were very fine Irises judged from any point of view.

The next day, with Mr. Wallace, Mr. Dykes and others, I went to the Cayeux nursery and saw there a dozen or fifteen very fine seedlings,

inclined to put it right up at the top in the class with Souv. de Mine, Gaudichau, Swazi and Bruno. I was much taken with this variety three years ago, and I am more and more impressed by it each year. Ballerine also shewed up well, but Magnifica, the largest of all Irises in general commerce, to me at least is somewhat of a disappointment, as it is so floppy. The unique colour of Medrano again attracted me, but the newer Vilmorin varieties did not seem to me of such great importance. I will want Trianon, Turco and Zouave in my own garden, where I can judge them more carefully, but I do not expect to find them as high class as Ambassadeur, Ballerine and Medrano. It is a disappointment to me that the Vilmorins do not introduce Allies, as this seems a very unique colour. I am told it has bloomed four or five years in succession in October, so that it looks as if it might be the beginning of an Autumn-blooming strain.

as good as Mlle. Schwartz, which received an award at the Paris show. His varieties have a tendency to have weak stems and need more careful selecting. Mr. Bonnewitz tells me that his new variety Louis Bel is one of the most beautiful of all dark Irises. It is a Gaudichau-Kochii cross.

In England I saw Irises at two flower shows and in a large number of gardens and nurseries. Wallace's exhibits, both at Chelsea and on June 7, were the finest I have ever seen. There can be no doubt about the value of Swazi, Cardinal, Bruno and Duke of Bedford under English conditions. I would be afraid to recommend them in America until they have been more tested, as Dominion with us has been a disappointment in many places.

The same holds true with many of Sir Arthur Hort's seedlings, but where they can be grown I predict a wonderful future for Leonato, Shylock, Blanche, Willoughby and five or six others. His continued breeding with Caterina, Cypriana, Mesopotamica and Ricardi have given him wonderful height and size, and apparently he has got away from the crooked stems which are characteristic of Denis's Ricardi seedlings. He has made wonderful progress since I saw his seedlings in 1919, even the beautiful Ann Page and Volumnia being left far behind by his newer ones. His garden is on a steep slope, and is underlaid with chalk, so that the Irises have just what they want; The view of the neighbouring church and of the fields and trees and hills in the distance is as charming as any garden outlook I have seen.

I was perhaps more astounded by Perry's seedlings than by anything else I saw on my trip, for while I had recognised for years Mr. Perry's work with Delphiniums, Poppies and other plants, I had never considered him seriously as an Iris breeder, in spite of the fact that he had given us many good varieties like Her Majesty, Black Prince, King George V and Wm. Marshall in the past. One glance at his nursery this year convinced me of my mistake, for he has as wonderful a patch of seedlings as I have ever seen, all of extraordinary height, of good form and fine clear colouring. His trouble is going to be selecting them so that only the very best will get into cultivation. There is always a temptation to name too many, and this has worked harm to the reputations of many of our breeders. When I saw them they were all under numbers, but at the Royal Horticultural Society's Show on June 7 three of the best were named Benrimo, Marion Cran and Robert Wallace.

I was greatly disappointed not to see the Perry varieties which had won such fine awards in 1921, but they had evidently been cut up too much to bloom. I cannot imagine that they are as fine as the seedlings which I did see and among which a flower almost the duplicate of Archeveque, but as tall as Alcazar, stood out.

My visit to Mr. Bliss in Devonshire was a most delightful one, although I did not here see as many important novelties as I had hoped for from Mr. Bliss' past performances. It was worth the long journey, however, to see Pioneer, a variety descended from Germanica and having some of the earliness of that species. I should say its colour was somewhere between Gaudichau and Parc de Neuilly. This should be a most important addition to our gardens. Citronella, which has won such high awards, did not excite me as much as I expected, nor did Susan Bliss, although I am willing to admit that it may be one of the best,



IRIS TIME.

among them Eclairer, Glorie, Imperator, Liberty, Peau Rouge, Salonique (which had received honours in Paris in 1921), Marc Aureau, Mme. Henri Cayeux, Mme. Abel Chatenay, Fidelio and Mrs. Robert Wallace, the latter being named that day because Mr. Wallace admired it so. These are going to make the name of Cayeux important in the next year or two, and are going to give the English breeders something to think about and to strive to outdo. If we consider that Ma Mie, sent out by Cayeux and Le Clerc sixteen years ago, is to-day more important than the day it was sent out, we can see that Cayeux knows something about Irises, and when he makes his final selection I am sure it will be a good one. The plants are all grown in the small walled-in garden at Vitry only a few miles from Paris, and presented a brilliant display of colour against the old grey walls.

On Monday, May 29, we were all invited to the Vilmorin's nursery in Verrieres to see their new things, and their fields were indeed a fine sight. The more I see of Ambassadeur the more I am

The grounds at Verrieres were spotless, and we had a chance to see not only the new Irises, but the old ones, and to be impressed with the great progress that this flower has made. A delightful lunch was served to about forty guests, who were most gracefully welcomed by Mme. Phillippe de Vilmorin.

At Millet's nursery in Bourg-la-Reine, of course, the outstanding variety was Souv. de Mine, Gaudichau, which Mr. Wallace has proclaimed the finest variety ever grown in France. Certainly no garden should be without it. Each year I am more and more impressed by the excellence of some of the other Millet varieties, which have as yet not attracted the attention they deserve. I refer particularly to Corrida, Delicatissima and Col. Caudelot, all of them free blooming, of excellent colour and fair height, but all of them apparently ignored in the race for giants. They can be had at reasonable prices, and are far superior to many much more advertised kinds.

We saw also in and around Paris a number of Demis seedlings, but none of the new ones seemed

if not *the* best, of our pinks. I can promise Mr. Bliss however, that it is going to have some real competition with a number of American seedlings of that colour, among them May Rose, Dream and Wild Rose.

I saw a number of Bliss seedlings also at the Whitelegg nursery in Orpington, where Moa and Clamour stood out. There, also, was a very fine mass of Tamar, a variety which has rather disappointed us in this country. It is not much as an individual flower, but it makes a magnificent mass, and should be in great demand when it gets cheaper.

At Mr. Bliss' also I saw a number of new Dominion race seedlings, but while they may technically have improvements over Cardinal and Duke of Bedford, these improvements are not such as to make it worth while for the gardener to bother with them until they have gone a step further; in other words, they are too close to existing sorts. This, of course, is a common fault of Iris seedlings everywhere. I notice in this country since coming home that the reaction is setting in and that people are refusing to buy new sorts until they see them.

In Mr. Baker's garden at Bexley I had the pleasure of meeting Mr. Yeld and seeing some of his finest seedlings, the best of all of which was Asia, which was a most magnificent flower. I had admired a few plants of it at Chelsea, but Mr. Baker had a mass of it more than 10ft. long by 2ft. wide, and I think in this mass it surpassed any variety I have ever seen anywhere. He also had a splendid mass of his older Lord of June, and I am still ready to stick up for this variety, which excited me so much when I first saw it five or six years ago. Big masses of Lord of June, Halo and Neptune made one wonder which was the best. I have never been able to decide.

At Mr. Baker's also was the finest Dominion I have ever seen. It stood 3ft. in height. I heard some criticism at the R.H.S. Show on June 7 that Dominion was no better than Black Prince. With all due respect to the people who said this, they could never have seen a first-class Dominion. Black Prince as shown at the Royal Horticultural Show was very fine and fully equal to a poor Dominion. The show at the Royal Horticultural Hall was certainly a wonder. Mr. Wallace's table was to my mind by far the best. Mr. Barr's also was very fine, and would have been still finer if he had eliminated about twenty old varieties which were no good. I noted at that Show several tables which were ruined by shewing what in American vernacular we call "junk." Splendid Irises like Alcazar and Ambassadeur and some of the new Bliss varieties were interspersed with Honourable, Duchesse de Chantefort, Comtesse de Courcy, Mexicana, Harrison Weir, Faustin and other old sorts which have been superseded for quite twenty years. In one case at least I am sure this nurseryman could have received a prize if he had taken twenty vases out of his table and left the rest. They killed the exhibit.

We were glad to see the competition for the American Iris Society medal interest an amateur, and I for one was sorry that he did not win it, as he came so close to doing. In America our shows bring out a great number of amateurs, and while we do not have the wonderfully large exhibits of skilled professionals that you have in England, we feel that we are ahead in interesting the amateur in this flower.

The American visitors can never cease to thank the French and English for the hospitable reception which were tendered to them. Everywhere we were received with the greatest of kindness, and I do hope that many European Iris growers will be able to visit some of our American Iris shows and give us a chance to return the hospitality.

A ROCK GARDEN IN AUTUMN

It is regrettable that more attention is not paid to late summer and autumn effect in the rock garden.

WITHOUT including the many early flowering rock garden plants which will, in favourable circumstances, produce a sprinkling of bloom in autumn as a kind of farewell to summer, there are a goodly number which, from nature or habit, will give a good show of colour right on to the brink of winter. Thus an idle tour of inspection around the garden during the third week of October revealed several clumps in various situations of *Oxalis floribunda alba* in full flower, and this, oddly enough, several weeks after the entire foliage of the rose-coloured type had disappeared. Another very beautiful species of this family, *O. lutea*, with large cowslip-like heads of flowers in glistening gold, grows here like a weed and is never out of bloom from May to December.

Ceratostigma plumbaginoides is another late bloomer which loves to send its roots among buried stones and which, once it is thoroughly established in a light, warm soil, will annually provide a mass of rich blue flowers above its crimson-tinted foliage. In a paler hue is *C. Willmottiana*, and this is taller and of more bushy habit, but that it is an improvement on the older form all will not admit. Another fine patch of blue may be found in a cool corner where *Geranium Wallichianum* var. *E. C. Buxton* is sprawling in elegant disorder, and the few flowers which one may always expect to find in a bed of *G. grandiflorum* will invariably be a purer, more arresting colour than those of summer. Another fine *Geranium* that will carry a head of bloom well into these last days is Russell Prichard.

That little sun-worshipper, *Verbena chamaedrifolia*, which almost startles one with the brilliance of its scarlet, white-eyed flowers, is also a dependable autumn bloomer. The same may be said of *Verbena venosa*—never to my eye so pleasing massed in the bed as it is in the rock garden of poor hot soil, where, if shorter in stature, it is larger in the flower-head and of a more sumptuous purple. This is a much hardier plant, by the way, than is generally supposed. Two *Convolvulus* always blossom freely here during these late days, namely, the silvery-leaved *C. Cneorum* and the trailing *C. mauritanicus*, whose delicate charm needs no word of praise from me. Yet another lovely, if common, thing is *Corydalis lutea*, a plant whose fragile beauty is apt to be overlooked in gayer days.

Pentstemon heterophyllus, which will sometimes survive a winter in the open with us, will give a brave show of its amazing trumpets in varying shades of blue and amethyst gleaming with an opalescent sheen until the last, provided the weather remains kindly. Then there are the *Linarias*, a genus which provides a number of good autumn bloomers, though most of the creeping kinds are too rampant and overwhelming to be admitted among the more orderly denizens of the rock garden. Two of these, yea, three, must however be afforded a place for their undeniable beauty and, happily, they are not the most difficult to keep within bounds. These are the tiny *L. aquitriloba*, a minute clinging creeper with lilac flowers, *L. pallida* in lilac and white and its pure white variety *L. p. alba*. The blossoms of the last two are the largest among those of this class, and they are borne profusely among strikingly handsome foliage. Of quite another kind is the indescribably lovely *L. alpina*, which is everyone's friend, one of the most delightful alpinists ever introduced to

English gardens. Then if one's rock-gardening principles do not forbid an indulgence in annuals (and why should they?), the *Linaria* family will provide a number of excellent little species and hybrids, among the most charming of which is the chocolate and golden *L. multipunctata*.

Dianthus Carthusianorum is sometimes called hard names, but both it and such others of its class as *D. cruentus* and *D. atrorubens*—which last is perhaps the best, though *Carthusianorum* is always the latest here—are not to be treated too indifferently these shortening days. They may lack many of the charms of the Pinks of midsummer, but they are the most weather-proof flowers I know, never plead for any attention, but carry on doggedly year after year, the Stoics of their happy race. And so it is with the Mule Pinks. There are rock gardeners who nurse the same antipathy for these bright and cheerful things as they do for annuals—because they are annuals. But there are others, to whose company I humbly belong, who have an appreciation for the *D. hybridus* group—always so faithful to their autumn-flowering reputation—which is not chilled by the knowledge that one of Napoleon III's parents was just a common Sweet William. At the moment of writing *D. hybridus roseus* and the salmon-pink *D. striatiflorus* are among the brightest bits of colour in the garden.

There are always some flowers about the *Armerias* at this time of year, but there is not one of this race of pretty things known to me which will yield an autumn display as fine as that of earlier days as the variety known as Bees' Ruby Thrift. Two feet high, this splendid *Armeria* is now bearing its large vivid carmine-pink flowers, and there are enough buds still coming to maintain a succession for several weeks longer. The very antithesis of this blazing beauty is the autumn-winter flowering *Periwinkle*, *Vinca acutiloba*, whose large, clean-cut flowers, in a white so delicately suffused with just a hint of blue as to seem positively cold, peer out of the depths of the dark green foliage with a wan but penetrating light.

Lithospermum prostratum and its variety Heavenly Blue seldom fail at this time to break into a fuller bloom than they have borne since the later spring, and the gem of their tribe, *L. rosmarinifolium*, is just opening the first of its large and surpassingly lovely flowers, the first of a series which will be maintained during fair intervals until there is an unmistakable scent of spring in the air. The neat and bushy *Helianthemum* (*Cistus*) *lunulatum*, with foliage of silver grey is covered with its little yellow flowers, the petals of which each have a tiny crescent of orange at the base, while of its kind *H. oelandicum* may be counted a worthy second in autumn flowering.

Not to be passed without respectful notice is the white-foliaged *Teucrium ackermerus*, a bushy and beautiful species which first opens its rosy crimson heads of flower at this season. Though the rock garden *Campanulas* have mostly had their day, *C. garganica alba* is always true to its reputation for late blooming, and there is a newer one, a *carpatica* × *rotundifolia* hybrid, known as *C. car-rotundi*, which has so far proved a most reliable autumn blossomer. The deeply and sharply segmented bells of this variety are of a peculiarly luminous sky blue, and the plant seems to be vigorous and easy. Spreading in wiry, prostrate sprays of grey foliage in a sunny corner, *Alyssum idæum* has adorned its tiny self with

clusters of bright yellow, and in a still more telling shade of the same colour are those exquisite little *Eschscholtzias tenuifolia* and *cæspitosa*, most lovable bantlings, the product of seed scattered at random about the rocks in June. *Thymus carnosus*, upright and stiff, with flowers of a dead white, represents its genus, and among the shrubby *Potentillas* which have made the best success of a late-flowering season are *PP. Farreri* and *tritica argentea nana*. *Geum Borisii* is also much in evidence, its orange-scarlet

being just the colour to respond to the golden sunlight of October, a colour which glows with a still intenser heat in the torches of the miniature *Kniphofias*, without which the autumn rock garden can hardly afford the fullest appeal. *N. Wales*. A. T. JOHNSON.

OWN ROOT CLEMATISES AT GRAVETYE

OF hardy climbing plants, the Clematises with their graceful and varied forms of bright and charming flowers are the most beautiful when grown to perfection. This notwithstanding, many of our gardens have been robbed of their presence through the unnecessary practice of grafting choice kinds upon the coarse stocks of the Traveller's Joy of our chalky hills and hedges. Thousands and thousands are propagated each year and, so grafted, sent out to customers to die.

I frequently visit gardens, but it is quite an event to come across a healthy Clematis. If one remarks upon their absence, the answer invariably is, "Clematises are so liable to die off suddenly—often as the flowers begin to expand—that we have given them up altogether." In order to get over this trouble considerable pains have been taken here over a period of many years, with the result that we now layer our own plants.

The layers are put down in March each year, being pegged to the tops of 6in. pots of sandy soil, which are sunk into the ground to the level of the border. By the following autumn the pots are well filled with roots, and the young plants are ready to be severed from the parent and transferred to fresh positions.

When new varieties arrive from a nursery their roots are thoroughly washed out, and

invariably two distinct sets of roots are to be seen, one the long fleshy root of the true Clematis and the other the roots of the wild stock, which we cut right away, leaving the plant to establish itself upon its own roots. From this practice we have had better results than when leaving the stock roots to them.

Clematises are grown here in quantities. Varieties such as *Perle d'Aznre*, *Nellie Moser*, *Ville de Lyon*, *William Kennett*, the *Nippon Clematis* and many others are scrambling over great bushes of *Magnolia* to a height of 20ft.; providing, over many months, a wealth of beauty such as could scarcely be surpassed. In addition to their association with host plants, we grow them largely upon walls, fences, tripods and pergolas; in all some thirty or more kinds. Some of these



PART OF A PLANT OF CLEMATIS PERLE D'AZURE ON ITS OWN ROOTS.

Established over 25 years, without protection.

plants have occupied the positions they fill to-day for over twenty years, producing thousands of choice flowers each year.

In its native habitat the Clematis is found on the fringes of woods, where its flowery growths, as they veil the natural undergrowth, are exposed to full sunshine, while their roots are shaded and cool. There are some other causes which will lead to the death of a plant, such as slugs barking the growths. Mice will damage them also, and even the wind, so fragile are their stems, but grafting is the great enemy.

Clematises growing in the open obtain great benefit from mulching, especially during long spells of drought, and I have known healthy stems to develop new roots up to 6ins. above ground-level.

Although the Clematis is essentially a plant of calcareous regions, it will succeed in ordinary soil. At Gravetye, when making fresh plantations, the soil, 3ft. deep, is made up of loam and leaf-soil with a good proportion of sand. Nothing is added after planting but a mulch of bracken, no manure being given.

I have frequently noticed that where plants on their own roots have, from one cause or another, been damaged above the ground line during their early growth fresh young wood quickly appears and fills the vacancy.

There is thus ample proof here that the loss of this precious group of climbers of the northern world in the gardens and nurseries of Europe is wholly due to the practice of grafting Japanese and Chinese kinds on the wild Clematis of our chalk hills, and in France on *C. viticella*, a native of that country, both equally harmful. E. M.



CLEMATIS ON OAK TRELLIS BEHIND A MIXED BORDER AT GRAVETYE.

NOTABLE NOVELTIES AT VINCENT SQUARE

IT was supposed to be an Orchid Show at Vincent Square on October 31, and the growers of these flowers came in great force. The amateur orchidists were induced by the special offer of challenge cups presented to the R.H.S. by the trade. Mrs. Mary Joicey had a very attractive group in which the beautiful blue *Vanda cœrulea*, many *Cypripediums* and *Sophran-Lælio-Cattleyas* were prominent. Sir Jeremiah Colman included a number of *Odontoglossums* and *Cattleyas*, particularly a large plant of *C. Bowringiana lilacina*, which in the spike had much the appearance of an unusually large *Dendrobium*. Mr. H. E. Pitt also had a beautiful collection.

Messrs. Charlesworth and Co. staged a very large display of *Odontoglossum crispum xanthotes*

H. E. Converse, Mrs. S. Dove, Mrs. G. Monro, jun., and the new Viscount Chinda in this and Messrs. Wells' collection were especially imposing, though many admired the grace of the spray blooms and those with anemone centres—*Thora* of rosy mauve colouring, and Mabel Weston, a dainty blush.

Another gold medal exhibit was the splendid collection of winter-flowering *Begonias* from Sir Charles Nall-Cain, *The Node*, *Welwyn*, and this filled a whole length of tabling. Nearly all of the exceedingly floriferous plants were growing in quite small pots. *Ideala*, deep old rose colour; *Scarlet Beauty*, semi-double of drooping habit; *Emita*, orange; and *Flambeau*, rich orange semi-double, are only a few of the fourteen sorts on view.

Messrs. Allwood Brothers, Messrs. Stuart Low and Co. and Mr. C. Engelmann.

The winter value of many alpine was well illustrated by Messrs. G. G. Whitelegg and Co., who filled a whole length of tabling with pots and pans of very neat plants. Some of them, such as *Saxifraga hybrida*, *S. Aizoon* and *S. pectinata*, had an attractive reddish bronze on the outer leaves, but it was the intense silveriness of *Teucrium aureum*, *Raoulia australis* and *Saxifraga longifolia* that attracted most attention. Anyone with a cold greenhouse to spare would be well advised to have a collection of such alpine, if only for their winter beauty.

Among other hardy plants Mr. G. Reuthe had flowering sprays of the uncommon *Hoheria populnea* and *Salvia Grahami*. The latter is a



ALMOST MARY RICHARDSON COLOUR, CHRYSANTHEMUM
MISS A. HAZELL.



A VERY PROLIFIC NEW WHITE PERPETUAL CARNATION,
THOMAS C. JOY.

in quantity and many other crispum varieties. Messrs. Sander and Co. showed the beautiful *Vanda cœrulea splendida*, while Messrs. A. and J. McBean included *Oncidium* and *Odontoglossum* of merit and Messrs. J. Cypher and Sons gave prominence to many *Cattleyas* and *Cypripediums*. Messrs. Charlesworth and Co. and Messrs. McBean were awarded gold medals.

The *Chrysanthemums* were to a great extent composed of the large exhibition Japanese varieties, and for an excellent collection Mr. H. J. Jones won his sixth gold medal of the year which certainly must constitute a record. The huge blooms of such sorts as Mrs. R. C. Pulling,

In the collection of stove plants by Messrs. L. R. Russell, Limited, there was a plant of the rich blue *Tillandsia Lindeniana* which attracted a deal of attention. In former days these Bromeliads were often grown in our hot-houses, but they are now very rare. Another comparatively rare glass-house plant to be seen at the hall was the white, double-flowered *Primula*, of which General Sir Charles Hadden sent up a number of fine plants. For a very long time the old double *Primula* had to be raised from layers, but now a good strain of seed can be relied upon to produce a great proportion of double flowers. Carnations were, as usual, very beautiful in the collections of

beautiful little bush for the herbaceous border, though it is not entirely hardy in most districts. Mr. J. J. Kettle had bunches of large, fragrant Violets with his late Raspberry Lloyd George, still fruiting abundantly.

A very good collection of Grapes was sent by the Hon. Vicary Gibbs, and these were staged with great skill. The chief white sorts were *Muscad of Alexandria* and *Lady Hutt*, while among the black Grapes were *Appley Towers*, *Black Aheante* and *Gros Maroc*. The R.H.S. had Beetroots from their Wisley trials. There were fourteen sorts and all of the long shape, and while all were well grown, one selected Dobbie's Purple and

Dell's Crimson-leaved on account of the fine, dark colour of their roots.

NEW AND RARE PLANTS.

Berberis × Lady Beatrice Stanley.—This is a most lovely Barberry. It has somewhat the habit of *B. Wilsonae* and the autumn foliage



GLOWING BERRIES OF BERBERIS LADY BEATRICE STANLEY.

colour of *B. Thunbergii*, while it bears almost a superabundance of bunches of roundish rich coral pink berries about the size of Sweet Pea seeds. The most critical need not have demurred had a first-class certificate been given. Award of merit to Lady Beatrice Stanley.

Carnation Thos. C. Joy.—This very fragrant, white perpetual-flowering variety is of medium size, fully double, and has serrated edges to the petals. Award of merit to Messrs. Allwood Brothers.

Chrysanthemum Miss A. Hazell.—A perfectly formed single variety of Mensa type and very uncommon orange terra-cotta colouring with a rosy sheen. R.H.S. award of merit and N.C.S. first-class certificate to Mr. G. Carpenter.

C. Mrs. B. Carpenter.—A very beautiful Japanese bloom of the largest size yet particularly graceful form. It measures roins. across and gins. deep. The long, broad florets reflex at the tips and the colour is a charming shade of soft rosy pink. R.H.S. award of merit and N.C.S. first-class certificate to Mrs. B. Carpenter, Crouch End, Finchley.

C. Wycombe Pink.—A large, graceful single soft pink Chrysanthemum. The narrow petals are attractively reflexed at their tips. Award of merit to Mr. W. H. Tyzack.

Croton Lord Balfour.—A very beautiful seedling raised by the exhibitors. The long, fairly narrow leaves have very uncommon red markings on bronzy green ground. Shewn by Messrs. L. R. Russell, Limited.

Crataegus Fulleriana.—This appears to be a hybrid between *C. Crus-Galli* and *C. coccinea* which, as shewn, lacks the grace of *coccinea*. Stiff, leafless branches bearing large bright scarlet haws, perhaps a trifle larger but not so bright as those of *C. coccinea*, were on view. The branches have occasional stiff spines. Award of merit to the Hon. Vicary Gibbs.

C. Ellwangeriana.—The above remarks apply to this except that the fruits are a trifle duller

in colour. Many planters will prefer *C. coccinea* to either. Award of merit to the Hon. Vicary Gibbs.

Pelargonium Fascination. As a pot plant this did not fascinate us, but some greatly admired the cut trusses in the floral decoration, where the small, scarlet, cactus-like flowers were moderately effective. It is said to be a seedling

plants on view were especially vigorous, and the leathery, lanceolate, very spiny leaves were much longer than usual. Each plant had in its centre the characteristic, compact, round head of soft pink flowers studded with pale orange stamens. Shewn by Messrs. Barr and Sons.

Salvia Lord Lascelles.—If well grown this might be a useful variety of the well known *Salvia splendens*. The colour is an uncommon pale salmon pink. Shewn by Mr. J. H. Crosby.

S. Princess Mary.—Another variety of *S. splendens*, but of better habit, though the pale primrose yellow corollas and paper white calyces are not likely to attract many gardeners. Shewn by Mr. J. H. Crosby.

Lælio-Cattleya Venada.—A large bloom in which the sepals and petals are stippled with mauve and the broad orange yellow lip is margined with the same shade of colour. Award of merit to Mr. H. T. Pitt.

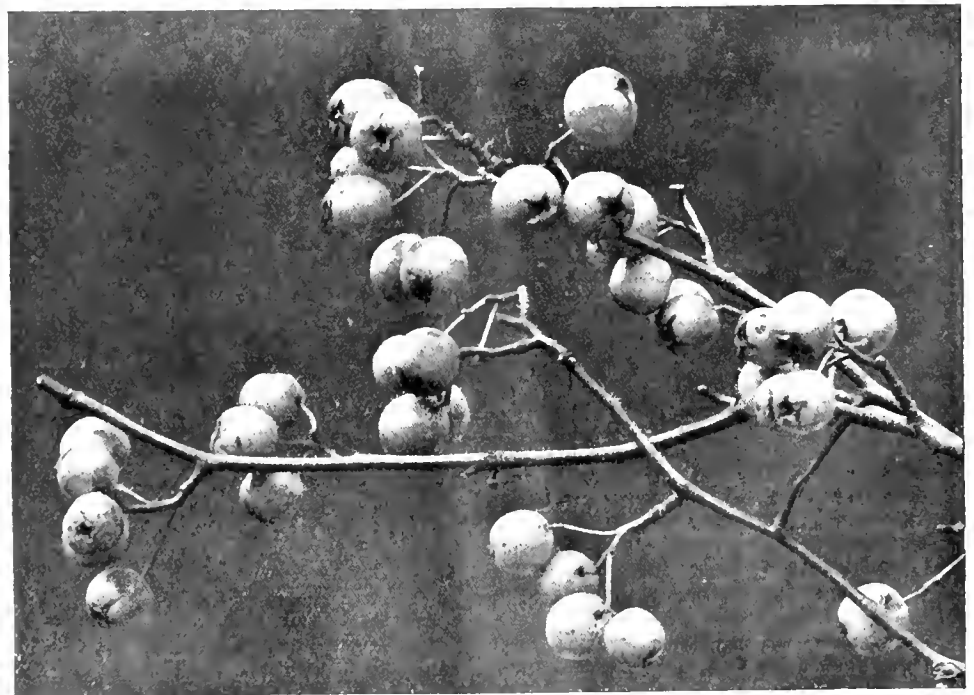
Lælio-Cattleya Dodona.—This is a wondrously beautiful flower of large size. The sepals and petals are of golden buff colour, heavily stippled with rosy purple, while the broad, velvety purple lip has an orange throat. First-class certificate to Messrs. Cowan and Co.

Odontoglossum crispum Beauty Spot.—A particularly fine variety. It has silvery white sepals, the lower pair are lightly flushed with purple, and there is a large brick red blotch on each segment. First-class certificate to Mr. Pantia Ralli.

O. crispum Silver Moon.—A charming silvery white flower of good shape which has a small pair of pale chocolate blotches on the lip. Award of merit to Mr. Pantia Ralli.

O. Princess Yolande Gerrish's var.—A large spike of well formed flowers heavily marked with chocolate. Award of merit to Mr. R. Gerrish.

Vanda luzonica var. dulcis.—Although, no doubt on account of the cold weather, we did not detect any sweetness, the flowers are quaintly beautiful in their somewhat hooded appearance and lilac markings on a white ground. First-class certificate to Messrs. Sander and Co.



THE CRIMSON FRUITS OF CRATÆGUS ELLWANGERIANA.

THE IMPERIAL FRUIT SHOW

THE exact appeal of this, presumably, annual fixture to the general public is not obvious. Perhaps the War Museum and other side shows at the Crystal Palace form part of the attraction. Certainly it is not easy to imagine anyone not a market grower or retail fruiterer, becoming enthusiastic about scores and hundreds of boxes of Apples and Pears as packed for market. The cider makers' exhibits were exceedingly interesting

The Apples included fine dishes of Charles Ross, King of Pippins, Duke of Devonshire (green russet), Royal Russet, Allington Pippin, Peasgood's Nonsuch, Warner's King and Bristol Queen. Among the Pears the quite round fruits of Buerré de Naghan were noteworthy.

Messrs. Laxton's admirable exhibit included fine dishes of, among many others, Rival, Newton Wonder, Coronation, Laxton's Superb, Peacemaker and Rev. H. Wilks Apples and Diamond Plums,



MESSRS. LAXTON'S ATTRACTIVE EXHIBIT.

in their way, so were the British nurserymen's exhibits of fruits in a more usual setting, but the cold, draughty atmosphere of the Palace and their remoteness one from another, took from the effect even in their case.

Messrs. Bunyards had a wonderfully fine exhibit of Apples and Pears, though, largely owing to the position allotted, it was less attractive than their magnificent group at the Great Autumn Show at Holland Park. Their Pears included Pitmaston

the latter on close inspection shewing signs of shrinking.

Messrs. Brambers of the Norfolk Nurseries shewed lifted plants of various fruit trees, Roses, etc., all clean, healthy stuff. The Barnham Nurseries had an interesting exhibit consisting, on the one side, solely of market varieties, but on the other, we noted good dishes of such Apples as Alfriston, Charles Eyre, Orleans Reinette, Ribston Pippin, Egremont Russet, Cox's Orange Pippin



THE KING'S ACRE NURSERIES WORTHILY REPRESENTED THE MIDLAND COUNTIES.

Duchess, Catillac, Doyenné du Comice, Buerré diel, Emile d'Heyst, Double de Guerre, Roosevelt (an immense and highly coloured dessert sort), and Buerré Alexandre Lucas, all of admirable quality. Among a great variety of Apples, Rev. W. Wilks, Ellison's Orange and Peasgood's Nonsuch caught the eye as especially good.

Messrs. Seabrook's exhibit consisted of boxed fruits, and in another place, of specimen fruit trees in tip-top condition.

The King's Acre Nurseries had a large and representative collection of Apples and Pears,

and Brownlees Russet. Their Conference Pears were also very good.

Messrs. Isaac House and Sons made quite a display with their new Apple, John Standish. The big Covent Garden salesmen were, as usual, well represented, notably Messrs. T. J. Poupard and Messrs. Geo. Munro.

Mr. W. Wells, Junior, provided in one part of the hall some of the lightness and variety which was so sadly wanting elsewhere. He had a charming arrangement of Delphiniums and Scabiosa caucasica. We can only hope that his enterprise was

rewarded. Messrs. Carters of Raynes Park had an attractive mixed display of dry bulbs, vegetables and garden sundries.

Upstairs, in the gallery, there were the usual scientific exhibits of the Ministry of Agriculture and the various experimental stations. We noted, besides, on the attractive stand of Messrs. W. Darlington and Sons, Limited, the Titan Horti-Plow, a cheap and handy tool, which should be very useful in gardens of any size, and the M. P. (Motor) Mower-pusher. So far as appearances go, both these appliances should be eminently useful. Messrs. Darlington exhibited in addition a great array of garden sundries, Nicotine preparations and what not!

Messrs. Abol, Limited, were, as usual, well to the fore with their specialities, such as Stictite (their admirable banding compound), "Limsul" (lime-sulphur wash), Abol (the excellent general insecticide), etc. Their excellent patent syringes and spraying machines were also on view. The Wilkinson Sword Company shewed their sword-steeled pruning shears and other sundries.

APPLE ALFRISTON

ON account of the extraordinary heavy crop of Apples we had in 1919, so that we could afford to lose some, it was decided that several experiments be tried to ascertain the best methods of keeping them in good condition for a lengthened period. Some of these experiments were successful—most were not.

One of the trials was to wrap each Apple in brown paper, and at the time of storing no particular variety was selected for this purpose, except those which, in the past, were considered good keepers when laid on the shelves in the ordinary way. On the present occasion, the fruit-room was filled to overflowing, Alfriston being among the last to be picked. As it is a large Apple, one did not grudge the time for wrapping so much as might have been the case with a small variety.

It is not necessary to remind fruit-growers that dry days only should be taken advantage of for storing Apples. When picking fruit from high trees I wear a strong apron securely fastened over the shoulders, as well as tied round the waist. The apron should be long enough to double up so that it can be strapped to the waist, leaving both hands free. It is so important that the fruit should not be bruised or damaged in any way.

Our Alfristons were taken to the fruit-room and each wrapped in a square of brown paper and packed away in a section of the house as carefully as if they were intended to be sent to New Zealand. With the exception of a cursory examination of one or two on the top of the pile, they were not again looked at till May of the following year, the house by that time being cleaned out of all the best samples.

Alfriston is a superior cooking variety, and when Apples were plentiful no one would think of eating it raw, but after being stored away in this way it was so beautifully coloured and so attractive to look at that some were sent to the table for dessert, and it was no surprise to us to be told they were so good they must all be kept for eating.

As our crop in 1920 was the most wretched we have had in twenty-five years these Alfristons were used as sparingly as possible, and a year after being stored we had them quite sound, though slightly shrivelled.

PETER McCOWAN.

Argomery Gardens, Kippin, Stirling.

CORRESPONDENCE

THE TWELVE BEST SHRUBS.

YOU ask me for a list. I will give you two lists. First, what your correspondent asks for, twelve good shrubs for massing, not trees. The other list is twelve trees and shrubs, all of the highest quality when well grown under favourable conditions. Both lists are alphabetical.

List I.—*Berberis Darwinii*, *Cydonia Knaphill* Scarlet, *Erica carnea*, *Hydrangea hortensis*, *Kalmia latifolia*, *Lavender*, *Magnolia stellata*, *Rhododendron Loder's White*, *Rhododendron (Azalea) Gloria Mundi*, *Rhus Cotinus*, *Rosa Moyesii*, *Viburnum tomentosum Mariesii*.

I have endeavoured to select a list of shrubs fairly easy to obtain and easy to grow, but such a list must largely be a matter of domicile and taste. I select *Rhododendron Loder's White* as probably the best white *Rhododendron* (it is being universally listed by the trade now), but many people would prefer a coloured hybrid or a species! I take *Azalea Gloria Mundi* as a well tried orange Honeysuckle *Azalea*, but some people will turn to the obtusum section. *Cistus* and *Viburnum Carlesii* are too fugitive (in different ways). *Viburnum tomentosum Mariesii* I prefer to *V. plicatum*, but some will not agree.

List II.—*Acacia Baileyana*, *Berberis Darwinii*, *Embothrium coccineum*, *Eucryphia cordifolia*, *Hydrangea hortensis*, *Magnolia Campbellii*, *Prunus Cerasus Hisakura*, *Rhododendron Aucklandii*, *Rhododendron obtusum*, var. *Hinemayo*, *Rosa Moyesii*, *Rhus Cotinus*, *Wistaria*. In this list some plants are not hardy, but all are first-class in a suitable climate and position. *Acacia Baileyana* is hardier than many others and a most beautiful plant. *Eucryphia cordifolia* in good form is undoubtedly even more beautiful than *E. pinnatifolia*. No one who has seen a fine group of blue *Hydrangea hortensis* in a Cornish wood will refuse this plant a place. I hesitated between *Magnolia Campbellii* and *M. grandiflora*, but the former is undoubtedly a more arresting plant! The Double Cherry, *Hisakura*, may have competitors, but, personally, I place it first among the Cherries.

Rhododendron Aucklandii is probably the tenderest plant I name, but the quality is unequalled and I prefer it, though I am sure I shall not have universal support. Of *Azaleas* I turn to the soft silvery pink of the *Kurume* known as *Hinemayo*; this plant in a half shady place in a mild climate will give six weeks perfect colour in March and April. *Rosa sinica Anemone* is not so good in habit or in fruit as *R. Moyesii*. *Camellia reticulata* is just excluded. The others need no comment.—“SENEC.”

I AM reading with great interest the discussion on the twelve best flowering shrubs. Some lists have been very good, but others, I feel, would lead to sad disappointment to the ordinary

amateur. Our garden of three acres has a poor and sandy natural soil, and this place is rather high and cold. My list of twelve flowering shrubs is: *Pyrus japonica*, *Pieris (Andromeda) japonica*, *Berberis* (many beautiful varieties), *Forsythia suspensa*, *Azalea mollis*, *Lilac (Marie Lemoine or Souv. de L. Spathe)*, *Deutzia Lemoinei*, *Philadelphus (grandiflorus or Lemoinei)*, *Kalmia latifolia*, *Spiraea (white and pink)*, *Hydrangea paniculata* and *Buddleia variabilis*. Each one in its turn seems to me the most beautiful and beloved of all!—A. M. D., Surrey.



EUCRYPHIA CORDIFOLIA.

“In good form even more beautiful than *E. pinnatifolia*.”

IN the correspondence in your paper concerning the twelve best shrubs I do not recollect any mention of *Escallonia montevidensis*, which is, to my mind, incomparably the finest of our autumn shrubs. It begins to bloom in October and is now, after several sharp frosts, at its very best. The bright green lanceolate leaves are surmounted by large clusters of pure white cinquepetalous flowers gleaming as though they were the children of spring!—REGINALD RANKIN.

THE twelve best do not exist! How so? Because no two persons will be agreed as to the merits of any given dozen plants! This fact of opinions differing widely when it comes to

making a choice concerning a special gardening feature was well shewn a few years back by the correspondence and voting conducted by THE GARDEN on desert Apples. Individual likes and dislikes vary much, whether they concern the flavour of a fruit or the decorative merit of a shrub. As the old lady said when she kissed her pet cow, “There is no accounting for tastes.” However, the exercise of making a selection of the dozen best shrubs has been interesting, and I submit the following twelve: *Prunus sinensis rosea plena*; *Notospartium Carnichæliæ*, the Pink Broom, a real treasure for a garden; *Ceanothus Gloire de Versailles*, seen well at Kew as a massed shrub; *Cistus ladaniferous* (a good shrub, though per-

chance the rather fleeting nature of its flowers may cause it to be less popular in some gardens; be this as it may, a bush 5ft. to 6ft. high and 3½ft. across, is, when smothered in bloom, a picture not easily surpassed). An evergreen and deciduous *Rhododendron* must be in the list—the gorgeous heads of bloom of the former and the brilliant hued trusses of the *Azalea* make these shrubs among the most beautiful. *Azalea pontica* is excellent as a single specimen and still more showy when grouped, the same remarks applying to *Rhododendron fragrans*, *Eucryphia pinnatifolia*; *Rosa Hugonis* or *R. Moyesii*; *Spiraea ariæfolia* or *Aitchisoni*; *Exochorda macrantha*; *Cytisus Carlierii*, the lovely pale yellow Broom that flowers for quite two months from July; *Berberis stenophylla*. As only twelve are allowed to the dozen, *Magnolia*, *Olearia*, *Hydrangea*, *Philadelphus*, *Camellia*, *Deutzia*, *Viburnum* and *Genista* have had to be omitted from the final choice.—C. T., *Amphill Park Gardens*.

ACER GRISEUM?

IT seems almost presumption on my part to question the nomenclature of the plant sent to Vincent Square on October 17 by Mr. C. J. Lucas, under the name of *Acer griseum* and to which an award was given. I would venture to suggest, however, that the “absence of the peeling bark,” as specially noted in your description under New and Rare Plants, points to another species?

My plants of *Acer griseum*, now about 16ft. in height, commenced shedding their outer bark when quite immature, and are now never without the large hanging flakes of dark red peeling bark shewing the lighter skin underneath and which even extends to the side branches! I seem, too, to note other differences in the comparison with the spray photographed for THE GARDEN.

The leaves in the photograph appear somewhat larger and perhaps less toothed, while the seed keys are more acutely angled. I am strongly of opinion that if Mr. Lucas's Maple has not shed its bark now that it has reached the height of 18ft., it never intends to do so, and if this characteristic is essential, then another specific name must be found. In Mr. Bean's book (*Trees and Shrubs*, etc.), I

find under *Acer nikōense* the description of a species which seems entirely to fit Mr. Lucas's Maple.—H. W. GRIGG.

ASTER WILT.

IN his article on Michaelmas Daisies (page 539) Mr. Jacob refers to the "withering" which has of late years attacked these plants with disquieting frequency. As his remarks are likely to be misleading, and in view of the fact that he appears to be misinformed as to what "Wisley has said" and to misconstrue the absence of mention of the disease from "The Garden Doctor," it may be well to define the present position regarding the disease. When it originated, or where, we do not know. That it can be and is distributed by means of plants passing from one grower to another is certain. That the diseased condition of the plants follows the attack of a fungus in the lower part of the plant has been definitely proved at Long Ashton by Mr. Wiltshire and at Wisley by Mr. Dowson. That the source of fresh attacks upon healthy plants is soil infected by the spores of the fungus they have isolated and are studying is probable. Mr. Dowson has demonstrated that the fungus makes a poison that kills the foliage far away from the actual spot at which infection took place or to which the fungus has penetrated in the plant. He has also shewn that healthy tips taken from diseased plants may be rooted and will give perfectly healthy plants. It is therefore easy to secure healthy stock; it is probably impossible to cure a plant once affected; it is folly to plant in infected soil. So far our new knowledge takes us; but there is much more we want to know, and as it happens the discovery of these things would probably be of very far-reaching effect. They call for prolonged and tedious, and possibly costly, investigations; but they are well worth while, and the endowment of such research would be likely eventually to confer lasting benefit upon horticulture. We know (or believe) that environmental factors determine to a large extent the intensity of the disease, and probably its first incidence. The juxtaposition of fungus and plant are by no means the only factors involved, but the other factors have to be sorted out, and the influence of each tested individually and in combination with one another. We know how to kill the fungus in the soil, but we have no sure method of applying this knowledge to large areas outdoors except at vast cost. If we had this knowledge, we might be able to use it in many directions. As it is we are handicapped in our efforts to grow many plants healthily and well, whether they be for use or ornament, and when success crowns our efforts it is often merely empirical. We cannot ensure success in the future. Perhaps some public-spirited man of means will enable us to attempt the solution of these riddles and so to confer a lasting benefit upon horticulture!—F. J. CHITTENDEN.

THE CAUCASIAN SCABIOUS.

NOW that Messrs. Isaac House and Sons have shewn the public what can be done with *Scabiosa caucasica* I had hopes that this Queen of Hardy Flowers would be more generally grown by amateurs. They are, however, not likely to be encouraged if rash statements like those contained in your issue of October 21, page 525, are not contradicted. This Scabious is quite easily grown in a light, well drained loam and requires only (1) full sun, (2) to be kept dry in winter, (3) to be guarded against slugs. As for "auto-intoxication," I have grown them for twenty-five years on the same ground and have plants twelve years old shewing no signs of deterioration. They are easily propagated from seed or division in August or the spring (to divide in the autumn

I have long ago found certain failure). They like lime (I have found no other manure necessary) and are worthy of a place to themselves and not in the mixed border.—LANCASTRIAN.

["Lancastrian's" views on *Scabiosa caucasica* are interesting and go to shew the partiality of the plant for limestone or chalky soils, but it would be doing vendors of the plant a disservice to hold it up on most soils as a long-lived plant if left alone. Even on "Lancastrian's" own shewing a plant which needs to be "kept dry in winter" and to be "guarded against slugs" is not one for the careless gardener. Experience has convinced us that on a great variety of soils this Scabious may be kept only by annual division, preferably in very late summer or early autumn. The plant is, of course, easily renewed from seed, but one cannot rely on such plants to come true to type.—ED.]

WHITE MARTAGON LILIES.

THE Hon. Mrs. Cropper encloses photographs of white Martagon Lilies, part of a long border in her garden, in case one of them should be thought interesting to other readers. They receive no special culture.—Kendal.

The climate of the English Lakes is very



WHITE MARTAGON LILIES AT KENDAL.

favourable for many Lilies. It is not easy to see why Auratum Lilies should not succeed there as well as in the Isle of Arran.—ED.]

THE COLOUR OF ROSA MOYESII.

THE correspondence on "The Twelve Best Shrubs" discloses, I am pleased to see, that the merits of *Rosa Moyesii* are at last receiving recognition. Veitch's auction at Coombe Wood in 1914 no doubt partook of the nature of a "bargain sale"; nevertheless, I was surprised (and gratified!) when a dozen plants were knocked down to me for 7s. 6d.! I think there can be no doubt that the reason this Rose is so seldom seen in gardens is that some nurseriesmen are marketing a variety which is not the true *Moyesii* as originally distributed by Veitch (and Allgrove). I have seen at the shows a plant with all the characters of *Moyesii* except that the colour of the flower was a hideous combination of brown, red and yellow, suggesting a relationship with the Austrian Briar. The true colour is difficult to describe, being unlike that of any other flower known to me. "Brownish red," "blood red" are mis-descriptions suggesting the spurious variety I

have mentioned; "deep old rose pink" is the nearest I can get, suggestive of shades one sees in Chinese and Indian silks.—A. B. BRUCE.

A NEW RACE OF CHRYSANTHEMUMS.

THIS season the autumn rains are fairly abundant on the Riviera, and everything is green and growing, a great contrast to last year, when no rain fell till after winter had begun, so the prospects of the winter gardens are hopeful. The ground, however, is still dry when one digs down deeply, so it is to be hoped there will be a further fall while the temperature is fairly high. As usual, there are surprises to greet one. Many shrubs and flowers have succumbed to the long drought, while others seem all the better for the long rest imposed by it. Tea Roses have thoroughly enjoyed the heat and drought, and are most promising, but most Hybrid Teas, and especially the Pernetiana section, are barely alive and must be pulled up! Of the newer Roses Hadley, deep red, and Golden Emblem are the only two that have stood the drought. Mermaid is growing strongly and is shewing flower, so that seems an acquisition among climbers. There is one newcomer in the garden that is decidedly attractive.

Hitherto on this coast we have been so satisfied with the blaze of colour provided by *Salvias*, *Zinnias*, *Begonias*, French Marigolds and other well known autumn flowers that *Chrysanthemums* have been at a discount save for cut flower. Last year, however, Messrs. Vilmorin shewed some very dwarf single Japanese *Chrysanthemums* in Paris, and from the photographs taken I thought them very attractive. I had already seen the very dwarf double varieties that, blooming late on this coast, were useful about Christmas-tide, so I sent for a few cuttings to see what these new varieties were like. The first impressions are so favourable that I hope English gardeners will go to the Paris shows next month and satisfy them-

selves as to their worth. To an outsider these two or three varieties now in bloom give the effect of *Cinerarias* of strange colouring, so dwarf is their growth and so flat are the spreading heads of narrow-petalled daisies. For bedding purposes and for edgings they will be a real acquisition if they last long enough in flower. *Cinerarias* are so valuable in spring gardens on this coast that an autumn flower that resembles it in effect must be welcome to all who care for their autumn garden. If they succeed in England, they would make a delightful dwarf edging to the late Asters, and probably be of some use in pots, though I think their proper place is in the open border. The Orange trees here are more laden with fruit than I have seen for many years. Where properly watered and attended to they are a "sight," weighed down with their fruit just as the Apple trees have been in England. The Lemon trees are recovering from that terrible frost of nearly two years ago, but the drought has punished them more than the Oranges. The markets seem fuller of flowers than ever, but neither fruits nor vegetables are as fine as I have often seen them.—EDWARD H. WOODALL.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Winter Greens.—All plants which may be included under this heading have made an abundance of growth this season, rendering work between them somewhat difficult. Select a dry day and remove any weeds, and at the same time cut away all decayed or decaying leaves so that light and air can penetrate more easily.

Celeriac roots that have become sufficiently large should be lifted and, after trimming off the leaves, be removed to a cool store and have some sand placed about the roots. Any left in the ground can be trimmed up and be protected from frost by being moulded up with some soil.

French Beans.—Where a fairly liberal amount of pipe heat can be commanded a sowing of French Beans can be made in 7in. pots, placing about eight or nine seeds in each, reducing the number, after the strouger may be determined, to five. Grow the plants in a light position, maintaining at all times a little humidity in the atmosphere by the use of the syringe.

Seakale.—Introduce batches every few weeks into the mushroom-house or wherever similar conditions may be had. When lifting the crowns in readiness for forcing save the best of the thong-like roots to furnish plants for another season. For the present they may be tied into bundles and buried in sand away from wet and frost.

Salsafy and Scorzonera may both be lifted and stored in cool quarters to be drawn upon as required. Cut the foliage off, but leave fibrous roots alone until sending to kitchen.

The Flower Garden.

Planting Roses.—The various positions for the plants having been prepared as advised in the last issue of THE GARDEN planting should now be pushed ahead as rapidly as possible. Plant the bushes, etc., the same depth as practised by the firm supplying them, and make them firm by treading. Newly made beds or borders of Roses, which may look a little bare the first season, could be given a carpeting of Aubrietias, Violas or Nepeta in colour to suit the Roses, but should not be allowed to smother the latter.

Border Chrysanthemums.—When removing these plants as they pass out of flower be careful to save sufficient to provide stock another year. Place them in boxes of sandy soil fairly close together and keep the boxes in cold frames during the winter, which treatment will ensure plenty of good cuttings during the spring. Some of the best displays from border Chrysanthemums are obtained from plants where they are allowed to remain undisturbed the second year, and where this method is possible it is well worth carrying out.

Herbaceous Borders.—The planting of these has been fully dealt with in THE GARDEN, but where no such work or that of regrouping is necessary, it only remains to remove all decayed foliage, etc., when the flower-stems are quite dead. Where it can be arranged for, groups of Delphiniums, Lupins and all robust plants should be liberally mulched with rotten cow dung, as this will prove of great benefit to the plants next season, especially on light land.

The Hardy Fruit Garden.

Pruning.—Plenty of this work is now waiting to be done, and every advantage should be taken of favourable weather to push the job ahead. The amount of time necessary for the operation at this season is, naturally, influenced by the time spent upon the trees during the summer. Pruning may briefly be classed under two heads, *i.e.*, spur pruning as practised upon Apples and Pears and, on the other hand, the removal of the fruited branches and laying in fresh wood for fruiting as generally adopted for Peaches. It may be that in some instances this can be varied, and a good illustration is the Morello Cherry, which will respond either to spur treatment or otherwise. When pruning fully established trees on the spur method, great care should be exercised that the trees do not become too crowded with spurs. Trees on walls and other supports should be dealt with first.

Fruit Under Glass.

Early Peach-House.—Just when to start forcing is purely a matter of convenience to suit the requirements of the establishment, and can only be settled by those in charge, but, where there are several houses, early December is quite a suitable time to get one on the move slowly. Should

the necessary pruning have been done after the fruit was gathered, it only remains now thoroughly to cleanse the house and get the trees cleaned with an insecticide before again tying them into position. It may be that the border has been dealt with owing to root pruning, etc., but if not, having finished with house and trees, remove all loose surface soil, then lightly fork up the border, and give a good dressing of broken loam, rubble, wood-ash and a little bone manure, taking care that all is made very firm. A temperature of 45° is quite enough to start with.

H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Spring Cabbage.—Early planted lots should now have a little soil drawn up to them on either side of the rows. This not only steadies the plants, but also acts as a protection to the stems.

Celery.—The very latest batch should now be ready for a final moulding, which should be proceeded with immediately the weather is favourable.

Fruit Under Glass.

The Early Vinery.—The Vines in the early house should now be pruned and everything put in readiness for a start early in the new year. After the pruning has been finished the interior of the vinery should be thoroughly cleansed. Wash down all the woodwork and glass with hot water, adding a quantity of Bentley's Insecticide. The latter will assist in eradicating the numerous insect pests common to fruit-houses. Wash the rods with a solution of Gishurst Compound. We find this the most effective and reliable of the many washes recommended for the purpose. The surface of the border should be carefully removed till the roots are reached and a fresh dressing applied. This dressing should consist of good fibrous loam with a generous sprinkling of coarse wood-ashes. Add a 6in. potful of fine grade vine manure to each barrow-load of soil. Should the border be over-dry, sufficient water should be given to keep it in a fairly moist condition during the winter.

Late Vines.—Where bunches are still hanging on the rods they should be examined at short intervals and all decayed berries removed. A little heat in the pipes with careful ventilation will keep down damp.

The Hardy Fruit Garden.

Gooseberries and Currants.—Cuttings of these should now be formed of shoots about 12ins. long. Choose strong, short-jointed cuttings from the current season's growth, and rub off all but four or five of the top buds on the Gooseberry and Red and White Currant shoots, as these are best grown with clean stems. In the case of Black Currants the basal buds should be left, as it is desirable that they send out vigorous growths from the base of the plants. Make a clean cut through a joint and insert the cuttings in trenches 6ins. deep and 6ins. apart in the rows, adding some sharp sand to the bottom of the trench should the soil be heavy. A partly shaded spot is best, and firmness at the base is essential. Keep the rows at least 12ins. apart.

Pruning.—Where a lot of pruning has to be done a start may now be made among the Currants, thinning out all spent growths and encouraging the formation of strong young shoots.

The Shrubbery.

Planting Trees and Shrubs.—This is a popular time of the year as regards the planting of trees and shrubs and the thinning and transplanting of others that may require more space in the shrubbery. Crowded belts of mixed shrubs are not always desirable unless for a screen, so if the finer plants are to be seen at their best they should be planted sufficiently far apart to allow for their proper development. In sheltered parts the choice *Desfontainea spinosa* should not be neglected, as its presence gives much pleasure with its dark evergreen foliage and trumpet-shaped flowers of scarlet and gold. The late-berrying shrubs should also be considered, none giving more satisfaction in our Northern gardens than the well known *Cotoneaster frigida*. The less known *C. Franchetti* is also of much value, being more graceful in habit and being better balanced as a shrub than *C. frigida*. It also carries its berries well through the winter. An interesting contrast is the common

Snowberry (*Symphoricarpos racemosus*) planted in conjunction with the Spindle Tree (*Euonymus europæus*), both being beautiful when in fruit.

The Flower Garden.

Dahlias.—These have now been cut down by frost, so should be lifted and stored in a cool place for the winter. Do not over-clean the tubers when storing, as the adhering soil prevents undue shrivelling of the roots.

Summer - Flowering Chrysanthemums.—Although these stand quite well out of doors in certain districts, we find it best to lift the necessary quantity of roots for propagating purposes, packing the roots closely in cutting boxes and working plenty of leaf-mould and sand firmly round the stools. They may be kept in a cool frame during the winter, and if treated thus better facilities are offered for obtaining cuttings in spring.

Spring-Flowering Plants.—Now that the beds have been cleared of their summer occupants, no time should be lost in having the beds filled with the ever-popular spring-flowering plants. Wallflowers in variety, Polyanthus, Erysimums, double and single Arabis and Myosotis, with Sutton's Giant Daisies, all prove adaptable plants. The appearance of the beds may be considerably enhanced by the judicious planting of various Tulips or Hyacinths among the plants.

JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

CONSERVATORY AND GREENHOUSE.

Cinerarias.—Unless it is possible to introduce a little heat in frames where these plants are growing, the latter should now be removed to a cool, airy house. So transferred they should, if possible, be stood on a cool moist bottom, as they abominate heat and drought. A dry atmosphere and too much fire heat is fatal to Cinerarias. Plenty of air should be admitted on all favourable occasions, a temperature of 40° to 45° being quite high enough for them. Where large specimens are required some of the most forward plants should have a shift into 8in. or 10in. pots; this of course applies specially to the intermediate and tall-growing stellata varieties. Such plants are valuable for furnishing beds in large conservatories. The dwarf varieties, which are suitable for the benches, can be grown quite well in 6in. or 7in. pots. These plants enjoy a light, rich compost, and some old mushroom bed manure is excellent for mixing with the potting compost. Cinerarias are very subject to attacks of aphid, but this can be guarded against by frequent fumigation. The leaf miner often proves troublesome, but it can generally be prevented by spraying with some nicotine compound.

Herbaceous Calceolarias.—The plants obtained from seed sown during August will now require to be potted off and the earlier batches will also require a shift into larger pots. These plants thrive best in a light, rich compost to which some old mushroom bed manure has been added. Calceolarias enjoy moist conditions and should be stood on a cool bottom. Except with the object of excluding frost the plants do not require to be subjected to any artificial heat. Fumigation is frequently necessary owing to attacks of green fly, which quickly ruin the foliage of the plants. Continue to root successional batches of the shrubby section, according to requirements, and pot off rooted cuttings of the earlier rooted plants. Large plants of *Calceolaria Burbridgei* are excellent for winter flowering and are valuable for furnishing beds in the conservatory. This variety is so useful that it is surprising it is not more generally grown.

Tropæolum tricolorum.—This plant should now be starting into growth and the shoots are best supported by sprays of hazel. Well grown specimens are very effective when in flower and to produce good specimens five or six tubers should be placed in a 5in. pot. They grow well in ordinary potting compost and require cool greenhouse treatment throughout all stages of their growth. Beyond the fact that they are subject to attacks of red spider, their cultivation presents no difficulty. Dry tubers can generally be purchased at this time, and it is not yet too late to obtain successful results. *Tropæolum azureum* is a beautiful blue-flowered species from Chili which succeeds under cool greenhouse treatment, but I doubt if it is at present in cultivation; if so, I should be pleased to hear of it. *T. Jarrattii* is also seldom seen now. All three species, when their foliage dies down, should be stored dry in a cool place until they start into growth again.

Azaleas of the indicum section that were forced early last season and in consequence finished their

growth early, will now be available for forcing again. Varieties with forward buds should be selected and introduced to a warm house, when they should flower in some three or four weeks time. The plants should be kept well syringed as they are very subject to attacks of thrips. These Azaleas are imported in enormous quantities from the Continent, where they are cultivated in beds. They should be potted up as soon as they are received, using sandy peat for this purpose. After potting they should be stood in cold frames where they can be kept close until established.

If they have become dry in transit they should be thoroughly soaked before potting, as once peat is dry it is very difficult to wet again, and if the balls are dry the plants will likely drop all their leaves and flower buds. Azaleas are very popular for decorative work of all sorts, and if successional batches are used they may be had in flower for several months. Some of the small-flowered varieties are very beautiful and can be successfully grown in small pots.

Royal Botanic Gardens, Kew.

J. CUTTS.

chapter on Perpetual-flowering Carnations is a brief one—rather too brief. Perhaps this will be amplified in future editions and more information given respecting the more up-to-date varieties. The Schizanthus has been much improved as regards strains during recent years, and the author has not omitted to include this plant and to devote a very useful and instructive chapter to its culture. Under the heading of Miscellaneous the author some gives brief cultural hints on Sweet Peas, Azaleas, *Deutzia gracilis*, Freesias, Narcissi and Tulips, East Lothian Stocks, Violets, etc. All amateur cultivators who wish to increase their winter supply of charming flowers should procure a copy of this booklet as soon as possible.—GEORGE GARNER.

VEGETABLES ALL THE YEAR ROUND

November and December operations.

WE have reached the season of sere and yellow and it is conceivable that the inexperienced grower of vegetables thinks that his duties for the present year have come to an end, but that is far from being the case; on the contrary, he has immediately in front of him the important task of laying the foundation for next season's crops. Success then, as a matter of fact, will depend very largely indeed on the manner in which the late autumn and early winter work is done and the man who merely apologises to the soil now will find himself very heavily penalised in comparison with the one who carries out every detail to the extreme limit of thoroughness.

THE CONCLUSION OF HARVEST

Those who were wise in their generation completed all harvesting by or before the end of October, for one thing because there could not possibly be any further advantage in leaving produce in the ground and for another thing because the weather of November is never to be relied upon for important, urgent work, especially where the land is heavy. There are, however, always procrastinators who persist in allowing their Potatoes, and often Beetroots and Carrots too, to remain until November, and if they could find an excuse, no matter how thin it might be, they would leave them still longer. Let it be most clearly understood that there is no excuse, not even a bad one, and also that further delay must inevitably lead to direct and perhaps very serious loss. With the exception of Parsnips, which are best lifted in weekly supplies, get any roots that may still be in the ground out and into store at once.

GROWING CROPS.

There are, of course, numerous plants in active growth and, speaking generally, they are in splendid condition and ought to provide valuable food for the house regularly until the spring Cabbages come in. Late Broccoli is certainly a source of worry in many cases, but where any real difficulty has presented itself in the past growers have usually safeguarded themselves by reducing the area to the lowest limit and having a few rows of perpetual or Spinach Beetroot, grown hardily from August-sown seed, as these never fail to give abundant supplies of succulent leaves which, if they are not quite equal in flavour to some other vegetables, are infinitely better than nothing at all. The one duty associated with this group of plants is to hoe frequently to keep the soil open and the weeds down, but stringently to avoid that or other work entailing actual treading on the soil when it is wet.

PROFITABLE LABOUR.

Every opportunity must be grasped to push forward soil working during these two months, especially November, because strenuous labour now will always prove highly profitable in the ensuing season. The ground is opened up to

varying depths to admit air, rain and frost, each of which plays a part of paramount importance, and insect eating birds are able to proceed with their useful tasks more easily and successfully. It is, of course, for the individual cultivator to decide whether he will dig, bastard trench or trench his soil, but no one should be content with the depth of single digging when there is a greater cultivable depth at command on the one hand and no one should go to the length of trenching unless he is quite certain that the subsoil is sweet on the other hand; the intermediate course, called bastard, false or mock trenching, in which the subsoil is perfectly opened up but retained wholly in its original position is wisest in all instances of doubt and when it is done thoroughly the lower strata are sweetened by aeration and in due course trenching, undoubtedly the finest form of soil working can be done in the certain knowledge that it will be generously repaid. Whatever the system decided upon, let the surface remain as rough as possible, because this exposes a greater area to the action of the weather, and leads, consequently, to greater good. Manure, which is almost invariably best incorporated with the second spit, can be used now on medium to strong soils, but on very light, sandy land it is frequently preferable to leave it until spring, say till February. W. H. LODGE.

BOOKS

Winter Flowers.—The author of the handy, compact little booklet* on winter flowers is evidently well versed in the cultivation of the various kinds of flowering plants he has selected for his object, namely, the encouragement of amateurs who possess small greenhouses to fill them with useful and interesting plants during the dull days of winter. He has not used more words than are absolutely necessary to convey his meaning in a straightforward manner. Amateur cultivators will not find any difficulty in carrying out the practical instructions given. The selection of the plants is, of course, not an exhaustive one, but it includes those that will afford a good supply of cut flowers and those, too, that will furnish the stages with handsome, attractive pot plants, such as Cyclamen, Primula, Cineraria, Calceolaria, Schizanthus, etc. Those to yield cut flowers include Chrysanthemums and Tree Carnations. All the plants dealt with may be economically grown, as they do not require much artificial heat to bring them to perfection. The author rightly devotes some space to "Hints on Lifting Chrysanthemums" in addition to their treatment in pots. Lists of suitable varieties are given. The

For the Gardening Beginner.—Of the books for the instruction of the new-comer to the gardening fold there is no end. It was in expectation of some very pleasurable reading that we opened a newly issued book printed in large, clear type and written by those well known and deservedly respected horticulturists, Messrs. Horace J. and Walter P. Wright.† Yet now, after perusing more than half of it, the writer has pushed it impatiently away in disgust. The matter of the book bears every indication of its having been written before the war—probably several years prior to 1914. What service to *anyone* is a work so out of date as to omit Hugh Dickson from a list of Hybrid Perpetual Roses, Lady Hillingdon from the Tea section and General McArthur from the "H.T.'s"? The lists of climbing and Wichuraiana Roses are equally antiquated. Dorothy Perkins, for instance, is included under Climbers. Under Wichuraiana appear only Albéric Barbier and Gardenia. The magnificent American Pillar is nowhere mentioned, nor are such sorts as Elise Robichon, Excelsa, Dorothy Dennison, Jersey Beauty, etc., to be found. The list of Michaelmas Daisies is equally out of date. What can we think of this? "There are many varieties, of which Bessarabicus, Framfieldii and Riverslea (forms of the species *Amellus*), Mrs. Raynor and Wm. Bowman (forms of the species *Novi-Angliæ*)"—the spelling is as given—"and *ericoides* are a few of the best. *Alpina* and *Novi-Belgii* are also good." The italics are the reviewer's! To think of Michaelmas Daisies without Climax and some others of the *Novi-Belgii* is worse than picturing Hamlet without the Prince!

The article on Gladioli is no more up to date. Hybridisation is spoken of in the past tense, and there is not a word about the all-conquering *primulinus* hybrids, let alone the new "ruffled" forms. A fairly long list of Violas does not include Moseley Perfection! Again, "At the time of writing, the popularity of the Pæony Dahlias is rather a matter of promise than of fact. So far only a few varieties have appeared." Show and Fancy Dahlias are differentiated, though the National Dahlia Society has amalgamated them, and the three Star Dahlias mentioned are Jupiter, Mars and Saturn! Even the list of Sweet Peas is equally out of date. Further, the only mention of *Lupinus polyphyllus* describes it as blue, but "There are several varieties, including a white, a purple and a yellow (Somerset)"—no mention of the pink sorts at all!

The titles of some of the chapters are not too happy, e.g. that on "Hardy Herbaceous Plants," which includes such things as China Asters and Phlox Drummondii. Of these latter it is stated "Named varieties of annual Phlox are not offered," which will be news to most people!

* "Winter Flowers and How to Obtain Them," by David Armstrong. Published by *Country Life*, Limited, 20, Tavistock Street, Covent Garden, W.C.2. Price 11d., post free.

† "Beautiful Flowers and How to Grow Them," by Horace J. Wright and Walter P. Wright; 402 pages, 4to. Published by T. C. and E. C. Jack, Limited, 35 and 36, Paternoster Row, E.C.; price not stated.

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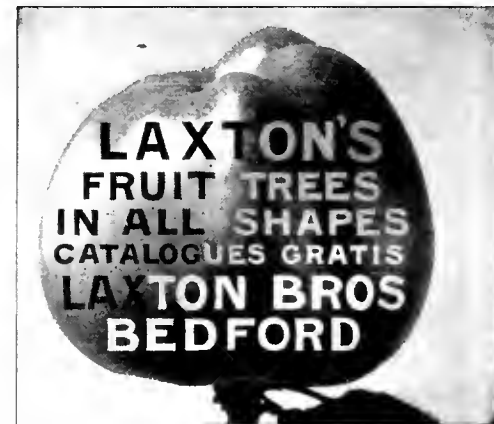
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SOME BEAUTIFUL ANEMONES

NO one could call the Anemone a popular flower and yet it undoubtedly comprises some species and varieties as beautiful as anything that Nature can shew and in its whole range, so far as we know it at present, there is nothing ugly and very little that is not really beautiful. The colour range is very extensive and includes brilliant reds (*AA. fulgens* and *coronaria*), bright blues (*AA. apennina* and *blanda*), clear yellows (*AA. ranunculoides* and *palmata*), and a great variety of soft shades of purple, pink and yellow, besides wonderful crystal whites. Some of the alpine species are perhaps a little difficult, at any rate they need special treatment, and some species and strains need some winter protection, but there are many to which neither qualification at all applies. It is therefore a matter for speculation why the Anemone is not more highly esteemed by gardeners generally. Perhaps it is awaiting its turn. It may be that the day will come when this flower will have a society to further its interest. There are many who think it far worthier of such assistance and distinction than the rather coarse and only half-hardy, if very useful, *Dahlia*.

The brilliantly coloured *St. Brigid Anemones* and their relatives and progenitors, *AA. fulgens* and *coronaria*, are worthy of more detailed consideration than can be afforded them here. The beautiful and useful Japanese Anemone in its many charming varieties is generally known and cultivated and it must suffice now to call attention to the merits of two varieties which are not so widely grown as, according to their merits, they certainly deserve to be. These are *Géante des Blanches*, the magnificent and substantial pure white which should entirely supersede *Honorine Joubert*, and *cristata*, with soft rose flowers and pretty divided rather ferny foliage.

The *Hepaticas* alone, with their welcome blossom in early spring, should make the Anemone family an honoured one in gardens. The original and typical single blue form is undoubtedly the best, but the albino and rosy varieties are also welcome. The double blue is very rare and correspondingly dear, but has no special garden value. The double white, too, is uncommon,

but the double rose is very plentiful and cheap and, being a shade deeper in colour than the single rose form and more lasting, is worth having. *A. angulosa*, however, is the finest of the *Hepaticas*, the flowers being larger and the habit of the plant more lax than in *A. Hepatica*. The typical plant is a glorious bright blue, but there are several colour forms in commerce and a rather uncommon pure white one.

It is doubtful if any species is really much more beautiful than our native *Wood Anemone*, *A. nemorosa* which, as generally seen, is a pure, if partially transparent white with, of course, beautiful clusters of golden stamens. In the west,

however, forms with blue coloration abound, of which probably the finest is *A. n. Allenii*, though many prefer the more fragile looking, rather opalescent *Robinsoniana*, in which most of the colouring is on the exterior and shines through. Though so fragile looking this is a good "doer" and, in a nice leafy compost will increase rapidly, even in the open rock garden. There is the inevitable double form and a much more beautiful one called *bracteata* which in any other flower would be called "anemone-flowered."

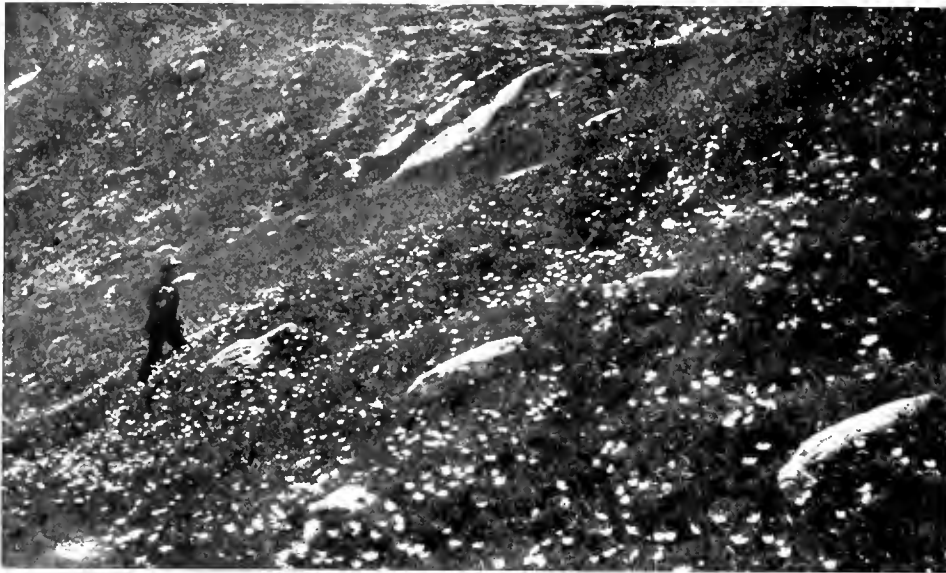
Of the *nemorosa* kindred, *A. trifolia* is an alpine, more robust in appearance and more solid of flower. Like *A. nemorosa*, it has a tendency to produce blue-flowered forms but, white or blue, it is always lovely and, under similar conditions to the *Wood Anemone*, easy. *A. nikkoensis* from Japan is, except for slightly more cut foliage, almost identical with *A. nemorosa*. *A. ranunculoides* is near akin though the more cup-shaped and smaller blossoms are practically buttercup yellow. Small clumps with few flower heads are not attractive, but a little drift, whether in semi-woodland or in the rock garden, is pleasing enough. From Siberia comes a very similar plant called *A. cœrulea*, though the blue appears never to be more pronounced than that of *A. nemorosa Robinsoniana*. Forms with more pink than blue are common.

A. alpina and its variety *sulphurea* adorn vast stretches of the European Alps. Both species and variety are exceedingly variable and it is very necessary to look out for good types for our gardens. This species has huge woody rootstocks and needs a deep, well cultivated soil quite in the open. A light, moderately fertile loam suits it best, which must be really well drained. The best forms of *A. alpina* are larger flowered than the sulphur form and in their snowy purity magnificent, but this latter is entirely worthy and so distinct as almost to deserve specific rank. *A. occidentalis*, the corresponding form from the New World, is smaller in all its parts, rather starrer of flower and with much more finely divided foliage. It requires similar cultural conditions.

The clear blue stars of *A. apennina* are one of the joys of the spring garden. Easily established in any light



A CHOICE WHITE ANEMONE, *A. RUPICOLA*.



ANEMONE ALPINA SULPHUREA ON THE MEIDEN ALPS.



THE EXCEEDINGLY GRACEFUL ANEMONE NARCISSIFLORA



A COLONY OF ANEMONE NEMOROSA ALLENII.

rather leaf-mouldy soil in full or partial shade, it is one of the "indispensables." *A. blanda* has usually the same clear blue flowers, but is smaller habited and less leafy. Of the two species it is the less effective, but has the more than counterbalancing advantage of early flowering. The scanty foliage quickly withers after flowering and it may be used, with or without a carpet of Stonecrop or other light carpeter, to fringe a shrubbery. It succeeds in open woodland, however, and is admirable there, though it flowers most freely and increases (from seed) most readily on the southern fringe where the sun can penetrate to ripen the tubers. There are soft pink and rich purple forms and, perhaps, most beautiful of all, the variety *scythica*, of which the flowers are blue without, white within.

The Pasque Flower, *A. Pulsatilla*, may be taken as typical of a very quaint and beautiful section of the family. It is often found as a wilding in Britain, but is not truly indigenous, having probably been introduced by the Romans, who used it as a dye. As raised from seed the Pasque Flower varies somewhat in hue, but is almost invariably some rich but rather sombre shade of purple. The opening flowers are held erect, but as the stems elongate they become more or less pendent. The slowly unfurling, much divided leaves are one of the plant's chief charms at blossom time, for they are a delightful silvery grey in colour and wonderfully silky in texture. There is a pure white form called White Swan and a clear shell-pink one called Mrs. Van der Elst. The plant, usually or, at least, often offered as *Pulsatilla alba*, is not a pure white, nor very pleasing. *A. Pulsatilla* is quite easy to grow in any well drained soil with a good lime content. It is apt to become coarse and weedy in loose or over-rich soils.

Closely related is *A. Halleri*. The foliage of this species is also grey and silky, but not at all finely divided and the flowers are throughout held erect. The flowers are violet purple within and heavily hung with "silk" without. This, perhaps the most beautiful of the *Pulsatilla* clan which have found their way into our gardens is also a European alpine, but unlike that species it is calcifuge. A good depth of sweet, not over rich loam in full sun meets its requirements.

Three other species of the *Pulsatilla* group sometimes seen in gardens are *AA. pratensis*, *montana* and *patens*. *Pratensis* too often masquerades in gardens as *Pulsatilla*, to which, in fact, it is much inferior. The foliage is similar, but the flowers are duller in colour, *never* held erect, even when first open, and narrow bell shaped, whereas in *Pulsatilla* they are flat, cup-shaped. *A. montana* is a more interesting plant, but rare in gardens. The flowers are ruddy purple—sometimes very dark—and the foliage dark green, not grey. The blossoms are, in shape, somewhat like those of *pratensis*, but are borne on taller stalks. With *Anemone patens* the foliage does not commence to unfurl until after the blossoms have expanded. The very distinct much cut, but, on the whole, rather rounded foliage, is smooth and green above, but silky beneath.

In *A. narcissiflora* we come to an alpine of a totally different type, and distinct with grace and loveliness. The blossoms are creamy, often with a purplish stain on the backs of the petals and the plant is not inaptly named, for something in the pose of the loosely clustered flowers reminds one of some of the polyanthus *Narcissi*; moreover, at a little distance, the clustered stamens suggest the *Narcissus* cup. It grows about a foot tall and like many other alpine seems to have an objection to isolation. It is much happier interplanted and hedged about with other plants of, preferably, dwarfer habit—small Ferns answer excellently.

Similar conditions suit *A. sylvestris*, though many find this easier to grow. Indeed, given fairly rich

light loam and a tolerably moist, but not boggy, root run, it will, like *A. japonica*, run about until it is almost a nuisance. The flowers, though smaller, are reminiscent of those of the Japanese Anemone, but carried on naked stems 8 ins. to 10 ins. tall. *Anemone rupicola* from the Himalaya is more or less intermediate between *AA. sylvestris* and *japonica*.

A. baldensis is a true alpine from the Southern Alps, including the Dolomites, and is always found at very considerable elevations. Farrer recommends to grow this white-flowered gem, which

is sparse habited and spreads by underground wires, in "a very earthy moraine with a few large coarse blocks buried in it and water flowing below," but given a light, rather stony soil and the company of other dwarf plants, it has always succeeded, if not exactly flourished, with the writer.

With *A. palmata* we come to the end of the species to which it is desired to call attention. This is undoubtedly the best of the yellow species and not at all difficult of culture in the sunny rock garden. It likes a deep soil containing a fair amount of humus and sharp drainage.

HEATHS AND OTHER SHRUBS FOR UNDERGROWTH

ANY light woodland loam, free from lime, is a suitable medium for the growing of a considerable number of lowly shrubs which, in addition to their own individual beauty and interest, are useful for covering the ground beneath trees and

fine-leaved foliage in a peculiarly vivid moss green which is distinctive. Among such Heaths as the above, various *Cotoneasters* as, for example, *CC. microphylla* and *congesta* may be planted with most charming results, even on the flat. In addition to these species one may mention the

Pachystima Myrsinites and *P. Canbyi*, hardy American evergreens of about 1 ft., with box-like leaves, are uncommon and interesting shrublets for the rather more open spaces. *Pachyandra terminalis*, from Japan, with its variegated form, may also be planted in shade that is not too dense, and the American *P. procumbens* will do in similar conditions. Both of these are quite dwarf foliage plants, but the latter, being sub-evergreen, is the less attractive. The Sand Myrtle, *Leiophyllum buxifolium*, is another little evergreen shrub in character with the above, but in addition to its small but numerous dark green, glossy leaves it bears a multitude of tiny white flowers which are preceded by vivid pink buds. This is quite easy in average cool loam where the shade is not too heavy, but the allied *Ledums*, of which there are several good kinds, do not seem to prosper here save where moister and more peaty conditions are provided. This also applies to our native *Andromeda polifolia*, which, however, is a low, spreading shrub well worthy of the attention of those who can give it the necessary dampness and a vegetable soil.

The *Euonymus* genus affords several dwarf species of exceptional merit for the purpose in view, both evergreen and deciduous, and the fruits of some of these are well known for their brilliant colours. Many of the lesser *Veronicas*, often grown in the rock garden, may also be included here, more especially those whose foliage is their chief attraction. The partial screen against frost provided by the branches of deciduous trees is of no small assistance in preserving through the winter such of these *Veronicas* as may be too tender to stand more exposed conditions. A selection should include *VV. lycopodioides*, *loganioides*, *cupressoides*, *Hectori*, *carosula*, *edinensis* and *decumbens*. For breaking the monotony, or wherever something taller is desirable, *Veronica Traversii* is excellent.

The *Vacciniums* also comprise several species which are of lowly stature and by nature eminently adapted for life beneath tall woodland trees in any lime-free loam. *VV. buxifolium* (*Gaylussacia brachycera*), *pennsylvanicum*, *Vitis-Idæa*, *macrocarpum* (*Oxycooccus macrocarpus*) and *canadense* are among the best, and some of these are not only pretty in flower and fruit but they assume fine autumn tints.

Ruscus aculeatus (Butcher's Broom) will thrive in the densest shade, and then there is the less rigid and generally more pleasing Alexandrian Laurel, *Ruscus racemosus*, which prefers a rather more open situation. Though both of these delight in a calcareous soil, they will do quite well in lime-free loam. The familiar Rose of Sharon, *Hypericum calycinum*, is one of the handsomest of woodland flowering shrubs we possess, but, one need hardly add, it must be used with caution owing to its ramping nature. *H. Moserianum* is equally good, much safer and its variegated form is very distinct. *Hymenanthra crassifolia* is a low-growing, shrubby New Zealand species, hardier than most plants from that country, and one that may be planted with confidence in any thin woodland. It may be grouped with good effect with such shrubs as *Corokesas*, also from New Zealand, with their pretty leaf tints and yellow fruits, provided the shade is not too heavy. Nor can one pass over the merits of that diminutive Holly, *Ilex crenata*, of which there are one or two attractive varieties. The best forms of *Berberis Aquifolium* (Oregon Grape) are admirable for woodland, and we have found *B. Wallichianum* first-rate for semi-shade. *B. Bealii*, since it flowers in mid-winter, appreciates the shelter afforded by tall deciduous trees, and other members of this charming race suitable for such planting will occur to the reader who scans the trade lists. A. T. J.



VERONICA TRAVERSII IN A WOODLAND GARDEN.

caller shrubs and thus enhancing the general effect.

Many of the Heaths are admirable for such conditions. If they do not bloom quite so abundantly as with full exposure, they give more colour than most shade plants, and that at seasons when flowers are comparatively few. *Erica cinerea*, in a robust form like *rosea*, or even the typical wild species, is one of the best of Heaths for fairly open woodland, and one that will blossom freely over a long period in summer. Another first-rate member of this genus is *E. carnea*. This species flowers from January to May, and we have plantations in the shadow of Oaks which give as fine a display of colour as those fully exposed. *E. darleyensis*, though it will make a dense bottom growth of a deeper and more pleasing shade of green than the foregoing, does not bloom quite so freely as it does in full light. Then there is the prostrate form of *E. scoparia* (var. *pumila*) which will form a thick-set, low cushion of

deciduous *C. horizontalis* and its smaller "edition" *C. adpressa*.

Most of the *Gaultherias* are also suitable for woodland. Among these *G. trichophylla*, a little creeping species with deep green leaves and pink flowers which produces pale blue berries as large as a robin's egg, is one of the most delightful. *G. nummularioides* is another excellent species, and the white-berried and more shrubby *G. pyrolaefolia* should always be given a place. *G. procumbens*, which will carry its bright crimson fruits all winter, is another deservedly popular kind, and there are several others, including *G. Shallon*, whose normal height of 4 ft. is usually much less in land not naturally moist. Though generally listed among the peat plants, all these *Gaultherias* will do in a lime-free loam which does not get too dry in summer. An occasional top-dressing of leaf-mould or half-decayed fir needles in spring is beneficial, and some of this should be incorporated with such soil when planting.

THE NEW SWEET PEAS

THE Sweet Pea is still a popular flower. The leading raisers are busy improving and reselecting stocks of the favourite standard varieties as well as introducing new colours. At the same time they are losing little, if any, of the charm that characterises the flower from a decorative standpoint, its gracefulness and scent. A bunch of freshly gathered modern Sweet Peas is sufficiently fragrant to diffuse a delicate perfume indoors, and when one walks down the rows on a warm, sunny day the presence of the Queen of Annuals is quite evident. There are critics who would have us believe that no modern lavender Sweet Pea can compare with the old Lady Grisel Hamilton, that Dorothy Eckford or Nora Unwin are still unsurpassed as whites, or that Moonstone or Mother o' Pearl have not yet been equalled in their respective colours, but when these are grown side by side with such fine new varieties as Powerscourt and Elsie Dene, Austin Frederick Improved or any of the modern frilled Sweet Pea can compare with the old Lady Grisel Hamilton, that Dorothy Eckford, Moonstone and Mother o' Pearl have had their day—it is the age of the super-Spencer type.

I do not think that the up-to-date grower will have much cause for complaint if he tries a selection of the undermentioned new Sweet Peas. Most of them I know well, many of them I have tried for the past two seasons, the hot, dry summer of 1921 and the past year when the weather was the reverse.

The raiser's name is indicated in parentheses after each variety.

Advance (E. W. King and Co.).—A rich shade of rosy pink on a white ground. For many years Mr. Burt has been trying to obtain an outstanding variety in this popular colour, and this novelty is the greatest advance he has yet made, hence the name. The flowers are beautifully formed, with a great proportion of double and triple standards, and in the height of the season borne mostly in fours. I have found this variety most reliable in all kinds of weather. It is one of the best of the novelties.

Artistry (Bolton and Son).—This variety is starred as the best in the Fancy Section in the new Classification List of the National Sweet Pea Society just issued. It has very similar colouring to the old variety Princess Mary—shades of blue and lavender pink. There is an opal sheen in the standard, and when well grown this art shade is very pronounced and beautiful. It is a really vigorous grower and gives an abundance of four-flowered sprays on long stems.

Benbow (Damerum).—A brilliant shade of carmine which produces fine flowers with very long stems. It will be a rival to Renown and Mascott's Ingman.

Cynthia (J. Stevenson).—Mr. Stevenson says of this novelty, "The largest pale lavender without a doubt." It is an improvement on his variety Faith, both in size and colour, and is very strongly perfumed.

Diana (J. Stevenson).—A rich lavender-coloured Sweet Pea which Mr. Stevenson tells me is more frilled and rather deeper than Austin Frederick Improved, a variety that is very popular in the North. Diana is of very vigorous constitution, and it beats its famous rival it should prove one of the raiser's masterpieces.

Elsie Dene (Bolton and Son).—When I saw this growing in the seed rows at Mr. Bolton's it

struck me as being the finest of the pure lavender blues. Under glass it is a soft shade of lavender, but out of doors the colour is cleaner and more distinct. It is a novelty of super-excellence, and one that is certain to become very popular.

Faerie Queen (Alex. Dickson and Sons).—When grown under glass or for garden decoration this Sweet Pea is very beautiful. It is a lovely shade of salmon pink on a cream ground with a ray of apricot salmon across the centre, the blend of colour being quite unique.

Improved Elegance (Woodcock).—A superb stock of the well known variety with a richer tone and the same perfect placing of the blooms. Mr. Woodcock sent me blooms of this during the summer, and I was much impressed with it. He tells me that it has been in great demand and the stock is nearly exhausted.

Improved Jean Ireland (Woodcock).—This was to have been sent out as Sylvia, but the colour is practically identical with the old favourite, so that it was decided to retain the popular name. Mr. Woodcock has thus given the start in a commendable attempt to prevent multiplicity of names. It is having an enormous run, and Mr. Woodcock tells me that almost every order includes it. I have grown it this year, and can bear out the raiser's claim that it is a rampant grower, with huge stems and an abundance of fours.

Kenneth (Dobbie and Co.).—Those who are familiar with the very frilled type of Sweet Pea that Messrs. Dobbie and Co. have made famous will be pleased with this novelty, which is a rich shade of rose on a cream ground and which keeps its colour well in water. It is short-jointed and makes an ideal flower for the exhibitor or for culture under glass. It has done well with me this year.

May Cowdy (Unwin).—May Unwin had great length of stem, and Edward Cowdy that rich, almost dazzling flame colour, especially in the standard. May Cowdy is a fictitious name that helps to show that the novelty combines the best points of each of the others. It should be a great favourite with Irish growers, who seem to get the best out of these orange-scarlet shades.

Mignonne (E. W. King and Co.).—A pretty name for an equally pretty Pea. I have tried it for two seasons and have found it most beautiful. It is the softest shade of pale cerise on a cream ground, rather a delicate grower and not quite sunproof, but well worth a little extra care in cultivation. Under lamplight the colour is exquisite.

Mrs. H. Richards (Unwin).—This is a very pretty decorative variety with a salmon rose flush over a white ground. The deepest shade of colour is in the wings and the centre of the standard. It is a vigorous grower with well placed blooms on long stems.

Mrs. Norman Lambert (Woodcock).—The most distinct of the novelties, a rich blood crimson not unlike the colour of the dark red Roses. It is quite sunproof; in fact, it simply revelled in the hot summer of 1921. A patch of this variety in full bloom is a most brilliant sight and its unique shade instantly arrests attention. It is a vigorous grower with plenty of fours on long stems. Like Mr. Woodcock's other novelties, it is in great demand.

Mrs. Stirling Stent (Damerum).—A rich shade of salmon rose and one of the most pleasing colours for culture under glass.

Poppy (J. Stevenson).—A very vivid orange red that is absolutely sunproof. In late autumn Mr. Stevenson had plants of this variety 10ft. high and 3ft. through the rows all ablaze with bloom.

Powerscourt (Alex. Dickson and Sons).—Mr. G. T. Dickson says that this is the finest pure lavender extant and, judging from the magnificent blooms he sent me in late August, his opinion will not be far wrong. They were nearly perfection. Purity of colour, refinement and length of stem were the chief characteristics, and every spray was a four. It is one of the finest of modern introductions—an outstanding novelty.

Ringdove (Dobbie and Co.).—A lovely cream pink counterpart of Kenneth, with the same heavy frilling in the standard and a similar habit. A great Sweet Pea grower has said that this variety in the hands of an expert would be capable of producing flowers that would be unbeatable for quality.

Rosemary (E. W. King and Co.).—A very distinct Sweet Pea—rich carmine pink overlaid on a white ground—that, owing to its very vigorous habit and great length of stem, is very easy to grow. It makes a brilliant bit of colour in the rows.

Royal Flame (Bolton and Son).—The most striking colour yet evolved, and when I saw it growing under glass at Birdbrook it was at least 10ft. high and literally smothered with dazzling blooms. All who grow Sweet Peas in the greenhouse should not fail to try it. Out of doors it should be shaded.

Royal Cherry (Alex. Dickson and Sons).—Another very beautiful new colour, bright salmon cerise which intensifies towards the edges of the standard, afterwards changing to deep rose. It needs to be well grown to be seen at its best.

Shamrock (Ireland and Hitchcock).—A rosy mauve with the vigour of R. F. Felton. The colour brightens after the flowers have been kept in water.

Sheila (Damerum).—Another addition to the pale cream pinks. It is highly recommended for exhibition work.

The Sultan (E. W. King and Co.).—The best of the very dark Sweet Peas. It is a shining black maroon. Of similar habit to Rosemary, and I find it as easy to grow as this variety. It will make a very telling vase for exhibition.

Viscountess Lascelles (Damerum).—A pale lavender with a very frilled standard that was much admired at the last Chelsea Show.

Wild Rose (J. Stevenson).—Mr. Stevenson tells me that everyone who has seen this novelty wants it. It is a very vigorous grower, and the colour is a soft shade of old rose with a flush of orange in the standard.

Wonderful (Bolton and Son).—When I first saw this variety two years ago I was very much impressed with its wonderful colouring, and suggested to Mr. Bolton that it could have no better name than the adjective which so aptly describes it. To see it growing in the long rows at Mr. Bolton's home gives a true impression of its striking colour, and it may be described as a deeper Royal Scot. I have found it as sunproof as that famous variety.

A dozen clumps of the following novelties would look very effective in this order: Wonderful, Advance, Poppy, Powerscourt, Kenneth, Improved Jean Ireland, Mrs. Norman Lambert, Elsie Dene, The Sultan, Mrs. H. Richards, Shamrock and Benbow. It would be a representation of the latest creations of the leading raisers of this very useful, almost indispensable, annual.

NORMAN LAMBERT.

TREE AND SHRUB GARDEN

PENDULOUS OR WEeping TREES

TREES of weeping or pendulous habit can be most effectively planted in the pleasure grounds and park. They are perhaps seen to best advantage on closely shaven lawns. The more or less formal outline of weeping trees can be used effectively, too, in courtyards and terrace gardens. With a little training some weeping trees make excellent arbours in summer. The best for this purpose are the pendulous forms of the common Ash, of the Beech, and of the Scotch and Feathered Elms. In the park, protection against animals is necessary, unless the trees are grafted or trained to a considerable height in the early stages of growth. Shady arbours by the waterside are refreshingly cool and delightful in summer. The best trees for this purpose are the pendulous Willows, Alder and Aspens.

There are two distinct types of pendulous or "weeping" branches, the first being of more or less prostrate habit of growth and requiring constant training to produce specimen trees. This type is represented by *Ulmus montana* var. *pendula* and *Fraxinus excelsior* var. *pendula*. The second type comprises trees which naturally grow more or less upright but have distinctly pendulous branchlets, as illustrated by *Salix babylonica* and *Taxus baccata* var. *Dovastoni*.

While a good number of the second group can be grown on their own roots, by far the best results with the first group are secured by grafting on the straight or type species usually fairly high up to give the tree a good start. Until the desired height is attained it is necessary to keep the leader or leaders tied to a central stake. To obtain the large arbour (umbrella) like growth with the clean central trunk the pendulous graft is worked at a height of 8ft., 10ft. or more. The spread of the branches is gradually trained outwards. In course of time supports in the form of props are often necessary to keep the branches off the ground. If the tree is used as an arbour, the props must necessarily be 6ft. or 8ft. long.

I have in mind a beautiful specimen Weeping Beech, with at least twenty props beneath, under which it would not be difficult to accommodate twenty-five to thirty people to tea.

Taken botanically, in alphabetical order, the most important pendulous trees include:

ACER DASYCARPUM PENDULUM.—This form of the Silver Maple has pendulous branches. It no doubt originated as a seedling, being an extremely graceful tree requiring only normal training.

ALNUS INCANA PENDULA.—A Weeping Alder of which there is said to be a specimen at Elvaston Castle about 100ft. high.

BETULA YOUNGH.—This Birch has more or less pendulous branchlets. Young's Weeping Birch is a very distinct and attractive tree.

CRATAEGUS MONOGYNA PENDULA.—The Weeping Hawthorn is a most beautiful tree when in flower, and particularly valuable for small gardens.

FAGUS SYLVATICA PENDULA.—The Weeping Beech is one of the widest spreading and best known trees of pendulous habit. *F. s. purpurea pendula* is a Weeping Purple Beech.

FRAXINUS ANGUSTIFOLIA PENDULA and *F. EXCELSIOR PENDULA* are distinct and ornamental.



A NOBLE LIME, *TILIA PETIOLARIS*.

The last named can be very effectively trained to form a "living" summer-house or arbour. At Elvaston Castle, Derby, there is a famous Weeping Ash 98ft. high. It was illustrated in *THE GARDEN*, Vol. LXVIII, page 400.

ILEX AQUIFOLIUM PENDULA.—The Weeping Holly is an attractive evergreen, forming a beautiful lawn specimen when worked high up and carefully trained. There are also silver (*argentea pendula*) and golden (*aurea pendula*) forms.

JUGLANS REGIA PENDULA has rigid branches which must be worked high up to be effective.

MORUS ALBA PENDULA.—The Weeping white Mulberry is a very elegant tree when well grown. It is a most persistent "weeper," requiring unending attention to form the framework of a specimen tree.

POPULUS TREMULA PENDULA and *P. TREMULOIDES PENDULA*.—The Weeping Aspens form distinct and attractive trees. The former is more rigid in outline and has the more attractive (male) catkins. The latter is a female and has longer, more slender twigs.

PRUNUS PENDULA.—The Japanese Rosebud Cherry is said to be a tall tree in Japan 50ft. high, but it attains the dimensions of only a small tree in British gardens. It is attractive when covered with delicate pink blossoms in spring, but, unfortunately, these open rather early and, together with the young growths, are frequently damaged by frosts. One of the best weepers of the Plum family is the Weeping St. Lucie Cherry, *Prunus Mahaleb pendula*.

QUERCUS PEDUNCULATA PENDULA.—The Weeping Oak is not so well known as the pendulous forms of the Ash, Elm and Beech, probably because it is slower in growth.



THE WEeping WYCH ELM, *ULMUS MONTANA PENDULA*.

SALIX BABYLONICA.—The Weeping Willow is the best known and possibly the most beautiful of all trees with pendulous-branches, and a very attractive waterside tree. *S. VITELLINA*, *S. CAPREA PENDULA*, the Weeping "Palm" or Kilmarnock Willow, and *S. PURPUREA PENDULA* are all desirable trees for moist soils.

TAXUS BACCATA DOVASTONI.—The main stem of this Yew is upright, the branches more or less horizontal and the branchlets drooping. This is a female tree and one of the handsomest of all Yews. [We were under the impression that this is a male form.—ED.]

TILIA PETIOLARIS (*T. americana pendula* of some gardens) is a tall tree with pendulous branches.

The undersides of the leaves, which are white, shew when swaying in the breeze, hence the name Pendent Silver Lime. One of the most beautiful Limes in foliage and flower.

ULMUS GLABRA (NITENS) PENDULA.—The Weeping Smooth-leaved Elm and *U. MONTANA PENDULA*, the Weeping Scotch or Wych Elm, are two well known pendulous trees, especially the latter with its stiffly pendulous growth.

There are also pendulous-branched forms of numerous conifers, notably *Cedrus atlantica pendula*, *C. Deodara pendula* and *C. D. robusta*, *Cupressus Lawsoniana pendula*, *C. nootkatensis pendula*, *Sequoia gigantea pendula*, and *Tsuga canadensis pendula* and *T. c. Sargentii*. A. O.

SHRUBS HARDY IN YORKSHIRE

MY experiences of three of the New Zealand Olearias alluded to in the interesting and suggestive contribution to THE GARDEN of October 7 (page 500), in this cold north-east corner of Yorkshire, may be of sufficient interest to put on record. *O. stellulata* stands very well, giving freely of its pretty white daisy flowers every summer; cold frosty winds sometimes cut the foliage back, especially in the late spring, but when this happens it usually recovers and flowers a little later. *O. nummularifolia* has taken very little harm up to now, but grows very slowly and the flowers are not nearly so showy as *O. stellulata*, and the foliage is much

holly-like leaves and its fine clustered heads of white daisy flowers.

The whole of the Rock Roses (*Cistus*) established here withstood all recent winters and they include *C. Loreti* (*Iusitanicus*), one of the loveliest, with its graceful white petals with deep crimson spot at the base of each petal, one of the latest to flower with me, and it had a flower on as late as October 21, as also had *C. algarvensis*, which has flowered much better than usual this summer. *C. formosus*, which also has flowered fairly freely this month (October) is the form with the purple-brown blotch at the base of its bright yellow petals. I also have *C. formosus immaculatus*, with simple

still in flower. I have quite a number of *C. purpureus*, probably the best of the family, with its large crimson blossoms with a blotch of maroon at the base of each petal; this has been in bloom this wet season from June right up to October. *C. villosus*, with rose-coloured flowers, still has odd ones in bloom. Other *Cistus* which I have that have been out of bloom some time are *CC. corbariensis*, *corsicus*, *laurifolius*, *cyprus* and *cyprus maculatus*, the three last named sturdy, very free-flowering shrubs; *C. rosmarinifolius*, very slow growing and somewhat tender (but two specimens I have, have gone through the past six or seven winters); and *C. monspeliensis*, an upright growing species, covered with small dainty white roses, with a yellowish blotch at the base of each petal. The dwarf *C. alyssoides* I have failed to establish up to now and the true *C. ladaniferus* I do not seem to have, what was obtained for this proving to be *C. cyprus*, as is, I am afraid, very often the case.

Practically all the *Cistus* above mentioned have been raised from cuttings and all have gone through at least three winters and many eight or nine. The time when they suffer most is in the cutting frosty winds we often have in the spring. My *Cistus* are usually cut well back as soon as they are out of flower, this keeps down the straggly branches which the wind gets hold of in the winter thus causing the roots to be loosened so much that the wet and frost get in—probably the cause of many plants not surviving the winter period. It is also a good thing to examine the plants early in the autumn and, if at all loose, to fix them up to small stakes to prevent movement. The long continued wet weather that we have had in these parts since the middle of June has brought on a good deal of sappy growth which, if we have a severe winter, may be the undoing of some of them later.

The hardy shrubby *Potentillas* should be included among the smaller flowering shrubby plants worthy of more use in our gardens. The native *Potentilla fruticosa*, with its darkish green foliage and its innumerable simple golden yellow flowers—"glittering stars of gold," as Farrer describes them—is very beautiful when at its best and the flowers are produced over a considerable period. In addition to our native species, many good varieties have been introduced from the wilds of China in recent years, and all that have been tried (with the exception of a very dwarf form of *P. fruticosa nana*, planted at an unsuitable time), have succeeded in establishing themselves in my garden. These include *P. Vilmoriniana*, of more upright growth than *P. fruticosa*, with silvery grey leaves and large creamy white flowers and *P. Veitchii*, also of similar growth, with green foliage and white flowers. These two are usually pruned back after flowering to keep them dwarf. *P. sp. 188* Farrer has pendulous branches with smaller green leaves and small yellow flowers running along the branches; it is usually later in flowering than the others before mentioned. Another that I have was sent out as *P. fruticosa forma* (Forrest), is somewhat pendulous and has deeper yellow flowers—not, however, deep orange as it was described as having in the R.H.S. list. All the above have gone through three or more winters satisfactorily.

Spartium junceum, the Spanish or Rush Broom, is most useful for its late and free-flowering, its fragrant bright yellow racemes of flowers being freely produced, usually in early July, and if cut back a little it flowers again in the autumn up to the first severe frosts; it is very useful for cutting for inside decoration. Plants are best raised from seed, potted up until "pot-bound," and planted out with as little disturbance of root as possible, when, if not in too heavy soil, it should readily establish itself, that is if rabbits, which seem to



WHITE WITH CRIMSON BLOTCHES, *CISTUS LORETI*.

more stiff. *O. macrodonta* is more liable to suffer than the before-mentioned and very frequently gets partially cut back, but usually recovers quite well and flowers, although last winter my largest bush suffered badly in January and again later and had to have the damaged branches cut off, but it has come again quite strongly from the base; it is well worth having, both for its evergreen

yellow flowers, but this is only a recent addition. *C. salviifolius*, the sage-leaved *Cistus*, still has a few flowers on, as has also *C. florentinus*; this *Cistus* seems to have branches killed by frost at times, but usually has plenty left to re-establish itself. *C. crispus*, was later in flowering this year owing to being checked somewhat badly in the spring, but recovered completely and is

appreciate it only too well, do not find it. Several seedlings planted out were eaten down to the ground by them, one of the garden's worst pests.

Two specimens of *Buddleia Farreri* (one raised from a cutting), planted out last year came through last winter and have grown well with their large grey flannel-like leaves, but have shewn no sign of flowering; it apparently flowers in its native habitats in March, before coming into leaf. Is it

usual for it to flower in this country? The early spring up here is rather a trying time to have a *Buddleia* coming in bloom!

With reference to *Tropaeolum polyphyllum*, which was described in a recent issue, it is probably worth mentioning that the tuberous roots should be planted at least 18 ins. deep to ensure success in establishing it.

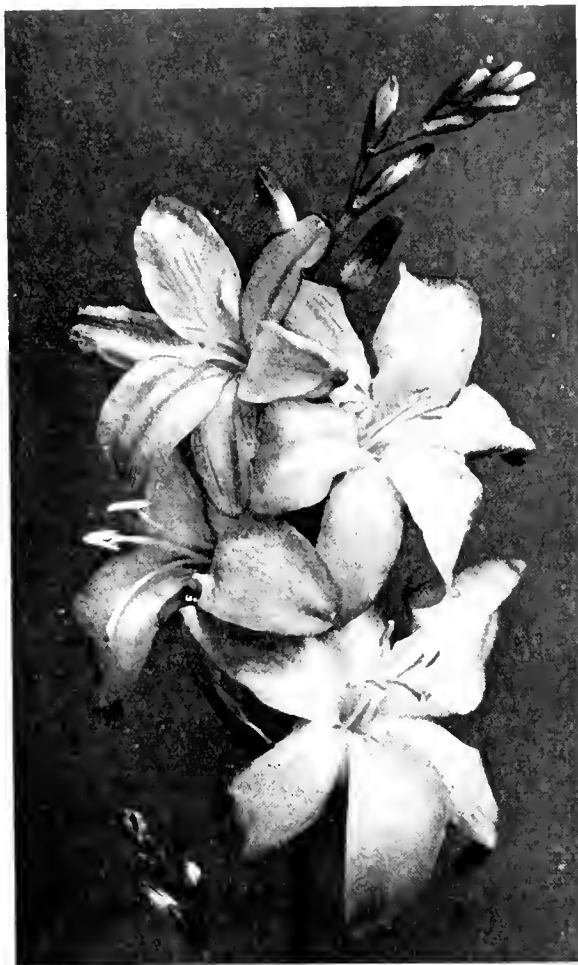
Middlesbrough. T. ASHTON LOFTHOUSE.

FLOWER HOUSE

The new Tenant—What next?—Earlham Montbretias—Phloxes in Sweet's British Flower Garden and in Jones's at Flower House

“WHERE there's a will, there's a way.” Where there's a Wales there's a Jones. Whenever any big herbaceous family comes into the limelight and is of sufficient merit and importance to be “handled” profitably, look out for *H. J. Jones*. These last two pleasantries are home-made, but all who know “Who's Who,” will agree that the fact in the first and the delicate insinuation in the second are credibly correct. Gold medals in the office at Hither Green, Lewisham, are no more “accounted of” than gold in Jerusalem when Solomon was king. It was the lure of his gold-medal Michaelmas Daisies that drew me to Hither Green as once before these grand autumn flowers had enticed me to the still more famous gardens at Aldenham House, where I was given a splendid treat and shown great kindness. I boarded the No. 10 tram at Victoria and was to be met by Mr. Jones at its country terminus, for he had explained to me that his original Ryeacroft Nurseries were full and overflowing and that we would have to go further afield to get to where the Michaelmas Daisies were. He met me all right and almost immediately we found ourselves in the grounds of what must have once been a fine country residence—Flower House, the home of the à Becketts. He had, he told me, been fortunate enough to secure four acres. Here he has Dahlias, Phloxes, Montbretias, Delphiniums and Michaelmas Daisies. Everything except the Montbretias were “in the pink.” These had suffered from the cold, damp time and some of the varieties looked rather sorry for themselves. I have never cared very much for His Majesty. Somehow it always seems to me to be over large and it was no surprise to find the flowers looking very sorry for themselves and bedraggled. Queen Alexandra, Nimbus and Queen Elizabeth are the three that I would select if I were choosing to please myself. The first of the three is a very pleasing shade of dark straw, the last is an orange-red, while Nimbus, as its name suggests, is distinguished from all others by the red halo round the centre of the flowers which recalls Gaillardias and certain forms of *Tulipa Kaufmanniana*. These Earlham Montbretias have revolutionised the race. I remember when we had to go to Lemoine for our up-to-date varieties.

Then came the Davidson hybrids, culminating in the fine orange-yellow Star of the East, which was considered so wonderful at the time it first appeared



THE LARGE MONTBRETIA HIS MAJESTY.

that it had the distinction of being the talk of a Shrewsbury Show. These have now been passed by the Earlham strain. The children have out-distanced their parents and instead of being content with Nelson, Lady Hamilton or even Prometheus, which I believe was raised in Holland, we must have His Majesty, Queen Alexandra, Citronella or Nimbus.

But Montbretias are not Michaelmas Daisies, and these are what I came to see. I saw them—quantities of them—but the fates had not been kind and only a very small percentage were in flower. I think the most attractive was one raised by Mr. Jones himself and named after the present

owner of Flower House, Major Pat à Beckett. It is a flower of the particular shade of mauve which always finds me and touches the approval spot in my brain. It is Euterpe against Ergaste in Tulips, and Gladys against Victory in Sweet Peas. *Cattleya*, a loose double soft pink shade and Ethel Ballard, a narrow petalled “mauve” pink, are the only others of this section down in my notes. Disappointed here, I had the compensation of learning something about the earlier flowering and dwarfier growing *Amellus* branch. It must in future be Rudolph Goethe and not King George, while there is undoubtedly no pink in the same boat with the rather difficultly named *Wienholtzi*. Mr. Jones's remark as we stood looking at it is one to read, mark, learn and inwardly digest. “Were I tied to one only of the *Amellus* lot, this would be my choice.” I saw the Delphiniums and made no note except that all seemed to be seedlings (and a very promising lot they were). I glanced at the acre or more of Dahlias and spotted *Salmonea* (a pretty salmon pink) and King of the Autumn (a lovely shade of pale apricot) but most of the time was spent among the Phloxes. This bright late-summer and autumn flower may be called a fairly popular one at the present time. History is repeating itself after an interval of nearly a hundred years if the numerous illustrations of different members of the family published in Sweet's “British Flower Garden,” from 1827 to 1831 are anything to go by. In those days the nursery of Mr. George Wheeler at Warminster was a great distributing centre, just as Mr. Jones's Ryeacroft Nurseries at Lewisham are now. The picture of *Phlox odorata* (Plate 224, first series) shows a very beautiful variety, with slender panicles of pretty bright rose-coloured flowers a foot or over in length, and which from the description were very sweet and retained their scent in dried specimens. It is of particular interest because the long panicle is a breakaway from the ordinary pyramid shaped ones with which we are now so familiar. What struck me on my visit to Flower House garden was the large number of dwarfs. It had never occurred to me that there were so many. I mention it because it is a useful bit of knowledge. In this age of manufactured bigness, some niches still remain which only small plants can properly fill. I am leading up to the suggestion of a late-flowering Phlox border where dwarfs would be wanted for the “front seats.” Phlox means flame. A border of flame! Yes, but only conventional flame. Yellow is conspicuous by its absence in the family—so I would rather say, a border of brilliant magnificence. On turning to my notes I find that quite unconsciously a goodly number of my selections would be admirable for such a purpose. It was a lovely day and I know I went very largely for the bright colours, much I fancy to Mr. Jones's amusement, who has, I think, rather a penchant for the salmon—not quite so much, however, as I have for the real thing—I went for red and cerise and rose more than anything else. Here are my dwarfs. Commander-in-Chief, deep rose with a dark eye; Mont Pelée, orange-red; Jules Dandau, dit., cerise; Florrie Freeman, a pale rosy-scarlet; Selma, soft pink, with a darker eye; Jones's Pink, pink; and Mauve Queen, a pretty shade of heliotrope with a white eye. The taller ones were (1) Charles Davies, a rich rosy crimson, in my judgment the brightest and gayest variety in the whole of Mr. Jones's Phlox patch. (2) September Glow. I think my host considered this his gayest and brightest. There was more of it and it was in better condition and the freshly opened blooms had a touch of salmon, which evaporated with age, leaving behind a glorious rose red. (3) Egir, medium height, brilliant scarlet-red. (4) Rosamundi, a pretty pink with a soft rose eye. In Tulip language the petals quarter, but the Bohemian

sort of look rather suits it. (5) Mrs. H. J. Jones—before I knew the name I said, "that's a saucy looking piece." The mauvy-pink body colour of the petals, some tipped with rose, some half inclined to show quartering and the extra large bright carmine eye, compose a charming truss, at once vivacious and fascinating. (6) R. A. Goldie—it has got out of place in my notes—the catalogue description is *very dwarf*. It is an undoubted salmon red with

a large rose eye—large too in pip and truss. If you must have a dwarf salmon, try this. Mr. Jones gives it a capital character. "It is always up to the knocker." This is my "lastly." But the pic is a very large one. It contains 181 plums, so allowing Jack Horner his one, and J. J. his baker's dozen, there will still be enough left for many more thumbs. Mark well my words, "H. J. J. is a grand maker of Phlox Pic." JOSEPH JACOB.

because this necessarily involves foundation laying, a task which will have to be learned by patient practice and close observation. Instead he should have three year olds or, if the slightly increased cost does not worry him, four year olds, whose foundations have been formed already in the nursery by men of skill in the craft. In addition to the shapely head there must be an admirable rooting system, largely fibrous in its nature and such as will be secured in trees purchased from the reputable fruit nurserymen who do not fail to advertise their wares in the fertile pages of THE GARDEN. There must be no seeking to the uttermost ends of the earth to find something a little cheaper—no, not cheaper—lower in price. The fruit nurseryman transplants his stock and thus ensures a rooting system which is directly favourable to transplantation; the vendor of low-priced stuff cannot afford to do that and the comparisons will work out at failures conspicuous by their absence from the reliable source and successes conspicuous by their absence from the unreliable one. Our head gardener must avoid so-called cheap trees as strenuously as he would avoid the plague.

If the roots become dry before it is convenient to plant the trees, soak the roots in water for twenty-four hours or so to plump them up. Go over them with proper care and cut back to sound portions any which have been broken or bruised in transit. A safe guide for depth of planting is to take the nurseryman's line, which is always correct for his own soil; or to accept the rule that the uppermost roots should never be covered to a depth exceeding gins. Friable mould must be worked thoroughly between the numerous roots, and there can be no doubt that fresh loam is the best soil for the purpose, but it is not always at command.

Then the head gardener must keep in his mind that firmness is essential, that, indeed, firmness to the point of solidity is of outstanding importance. It is impossible for one who is endeavouring to give helpful hints to brethren whose learning is presumably less profound to stress this point to excess, since it is incontrovertible that as much disappointment with fruit arises from looseness of the soil about the roots at planting time as from all other causes in combination. Spread the roots fully out, make absolutely sure that all are completely surrounded with friable soil and drive the mass down with a rammer. In advocacy of desirable firmness one hesitates just short of carrying it as far as the hardness of the macadamised road. It is thrifty growths to which firmness at the roots is directly conducive that we want in our trees and not long, luxuriant, sappy shoots which are favoured by looseness, especially when, as is frequent in gardens, there is a greater depth of root run than is really necessary, or than is even desirable.

The first pruning or cutting back should be done immediately on planting in nearly all instances and the head gardener of the medium-sized garden who does not feel himself qualified to decide to what degree the reduction ought to be carried should pick somebody else's brains. Instantly comes the question from several head gardeners, "Whose brains?" and with equal promptitude the answer is Mr. Owen Thomas's in "How to Prune Roses and Fruit Trees" (*Country Life* Offices, 11rd., post free). If it can be managed all planting should be done in November and that which remains undone at the end of the month named, at any time thence to the end of March, when the condition of weather and soil permits.

THE KINDS TO GROW AND THEIR POSITIONS.

In a brief review of the kinds which ought to be grown it may be well to commence low

FRUIT FOR THE MEDIUM-SIZED GARDEN

IT is necessary as a safeguard against possible misunderstandings that readers and writer shall become sufficiently *en rapport* as to agree, at least broadly, on what is meant by the term "medium-sized garden." The writer's conception is one of which the owner is the head gardener and he does practically the whole of the work among the flowers himself, superintends the working of the vegetable department more or less perfunctorily, but generally leaves it, with sole charge of the fruit trees and bushes to the "expert" care of the jobbing man, who attends on one, two or three days a week, according to the actual size of the place and the standard of its upkeep. The head gardener here sets out upon his task with the satisfactory feeling that he knows enough about flowers to take complete control, sufficient about vegetables to enable him to guide the sometimes erring hand and nothing whatever about fruits, and therefore he leaves them severely alone.

In my opinion, and I state it without the slightest hesitation and in the almost certain knowledge that it will be vigorously disputed by some of the keen men, and women too, who read THE GARDEN, the head gardener is proceeding on the worst possible lines. Instead he should grow his own fruits, grow or supervise to the uttermost limit his own vegetables and leave the flowers to the man. The successful production of excellent fruits and vegetables demands more intelligence than the successful production of flowers and it is in that direction, therefore, that the head gardener should take, and keep, his way. It may be well, as a set off to the critics, to mention that in making this statement, all consideration of the head gardener who grows Roses, or Dahlias, or Sweet Peas or Carnations as a speciality is ignored.

ANCIENT, ERRONEOUS IDEAS.

From time immemorial or from those long gone past days which the journalist would assure us are "lost in the mists of antiquity," the idea has prevailed that fruits can be successfully grown only by those who have made them a life-long study and that there are mysterious little things which must be done to them from time to time that are known to the profoundly learned alone. Never was there a more erroneous or ridiculous fallacy. I assert, and that without fear of substantial refutation, that there is no point in connexion with the culture of any of the fruits grown in British gardens with which the man of intelligence cannot make himself perfectly familiar in the course of two or three years, provided, and it is an important proviso, that he is determined to do so. The weather will bring him a purler sooner or later of a certainty, but it will inevitably bring the profoundly learned down with just as big a crash. If the theme of the moment were growing fruits of all kinds under glass, a different tale would have to be told and even then the lessons

could be learned, though they would demand a longer period of study.

There is no mysterious art in planting, training, pruning, thinning, gathering, feeding, cleaning or storing. Given a modicum of intelligence and commonsense in its application, fruit growing in a medium-sized garden will be a fascinating and a successful pleasure and it will be all the more fascinating, successful and pleasurable if the head gardener controls it himself. The unfortunate individual who has neither intelligence nor commonsense should not set foot inside a garden gate since he will never be able to grow either flowers, vegetables or fruits.

GETTING READY—SOME SPADE WORK.

As it is with everything else, so it is with fruit culture—there must be preparatory operations, and seeing that we do not plant fruit trees or bushes to occupy their sites for one season, but for a decade or a generation or considerably longer, it is obvious that all the preliminary details must be thoroughly attended to in a workmanlike manner. In these days of plentiful drains it is improbable that the medium-sized garden will ever become waterlogged; on the contrary, it is much more probable that excessive drainage will prove the disability. If there is a danger in the former direction, drains must be put in and that is a task which the head gardener will wisely relegate to one who has the necessary knowledge; while if the soil is apt to run too dry, it must be strengthened by the addition of clay or better still, burned clay, or failing that, by very real consolidation.

Assuming normal conditions the soil must be thoroughly worked to a depth of 18ins. by perfectly digging the top spit and efficiently loosening the under stratum. Here the head gardener may proceed by deputy, provided that he sees the operation is done and that there are no miserable apologies, such as are far too common in the work of the "expert" jobbing gardener who, as a matter of fact, is frequently a drifter who comes in because "anyone can do gardening." If it can be managed, digging must be done not less than three weeks in advance of planting and, failing that, the soil must be artificially firmed in the second spit first and the top spit in its turn. Lime can invariably be added on the surface, either before or after planting, to advantage, since should there be enough present, which is seldom the case, it will do no permanent harm, but it is in the rarest cases only that manure should be incorporated. Indeed, it is wiser always to vote against it as feeding can be done later, as judgment decides, without trouble.

TREES, ROOTS, PLANTING.

The head gardener of the medium-sized garden should not accept the advice, indisputably excellent as it is to the man who is already "profoundly learned," to plant maidens or one year olds,

CORRESPONDENCE

and work upwards, because there may be medium-sized gardens in which the head gardener cannot find accommodation for some of those trees which demand a substantial amount of space.

Strawberries come first then. All things considered they are best worked into the ordinary rotations of the vegetable section, as it is easy to maintain the three yearly cycle in which quarters which have fruited three times are grubbed annually and an equal area is planted with perfectly rooted runners. These plants constitute the one variation from the rule of November planting. The best season for them is August or early September, as there is then a reasonable certainty that the crop will be heavy and excellent in quality in the summer immediately following. Failing space in the vegetable or other department they can be grown as edgings to the paths; set them not less than 18ins. and better 24ins. back and treat them as "annuals," planting afresh each year.

There must be at least one or two rows of Raspberries, allowing not less than 4ft. asunder with 2ft. between the individual plants. The single stem of every plant ought to be cut down to within about 6ins. of the ground as soon as planting is finished and in no circumstances should the occasional late blossoms which come be permitted to remain the first summer subsequently. It is well to note that this fruit does not thrive to perfection on a cold, tenacious clay on the one hand, or a hot, thin sand on the other hand; the ideal is a medium loam.

Black Currants are partial to a cool, holding soil and they must be represented notwithstanding big bud and the intimately associated "reversion." A distance of 5ft. in all directions should be given and in pruning the oldest wood must be removed first and then such of the young as is necessary to admit light and air unobstructedly to the young shoots retained.

Red Currants and Gooseberries rank among the "must be's," with one or two White Currants, if the fancy so dictates. They are usually grown as bushes at 5ft. to 6ft. apart all ways, but much superior quality will be secured from single or multiple stemmed plants trained to strained wire trellises not less than 6ft. in height or to north walls where nothing else flourishes profitably and where the fruits hang very late indeed, provided that they are efficiently netted against birds. As single cordons 1ft. is ample space and the yields on healthy plants are simply enormous. The most popularly recommended fruit for a north wall is the Morello Cherry, but it is not nearly as generally useful as either Red Currants or Gooseberries and these should, therefore, be given the preference. Besides, brandy is expensive these days—but enough on that point.

Apples, Pears and Plums in bush form are almost indispensable in the medium-sized garden, but if it should be decided that one of them must be omitted, let it be the Pears, as they are never so reliable in the open garden as the others. The soil will be that natural to the garden and it must contain lime, with more for the Plums than the others. A distance of 8ft. asunder may be allowed and when the trees meet later each alternate one must be grubbed for destruction, or transference to another position if required. There may be, too, one or two Sweet Cherries, but they are never very satisfactory in the medium-sized garden because the birds demand so heavy a toll in the absence of costly and always somewhat difficult netting. A final word may be said. Do not leave an inch of wall or fence space unoccupied. There is a fruit which will clothe it at once handsomely and profitably, but exhaustive consideration of this phase of the subject must stand over.

W. H. LODGE.

THE CHALLENGE CUPS OF THE ROYAL HORTICULTURAL SOCIETY.

THE Council has now decided to abandon the rule by which the same competitor could not win the same challenge cup in successive years. In future he may win it year after year until he is beaten in the competition.—W. R. DYKES, *Secretary, Royal Horticultural Society.*

THE BEST ROSES.

AT the present time, when so many notes and articles on Roses are appearing in your valuable paper, I should like to draw attention to a very beautiful variety that seems to be greatly

preference would be my selection: (1) Hugh Dickson, (2) Harry Kirk, (3) Lady Pirrie, (4) Red Letter Day, (5) Mme. Abel Chateau and (6) Christine. I am sure the above selection will be severely criticised by lovers of the newer, more brilliantly coloured Roses, but in this garden, situated in Ulster, the above-mentioned varieties have proved themselves in every way worthy of attention, especially Nos. 1, 2, 3 and 4, which I would plant more freely than the other two. Hugh Dickson is magnificent as a standard, and is at its best as such. If another six sorts were required I would add Augustus Hartmann, Lady Ashdown, General McArthur, Lyon, Miss Willmott and Lieutenant Chauré. If five red Roses were considered too many in a collection of a dozen, I would substitute Mrs. A. R. Waddell for Lieutenant Chauré and Mrs. Henry Balfour for General McArthur. Isobel and Simplicity are two fine single varieties. —CECIL M. BAILEY.

THE HARDY JAPANESE ORANGE

DESPITE the somewhat unfavourable season, the Japanese Orange, *Ægle sepiaria*, seems to have fruited freely this season in many gardens, though I do not know of any having ripened. The curious little downy fruits are distinctly attractive and the blossoms beautiful, and it is rather strange that so interesting a shrub should be so comparatively seldom seen. Its entire hardiness is unquestionable, but it does not appear to flower so freely in Northern gardens as it does further South. The fruits are not poisonous, but are so acrid as to be quite inedible. There was a note by Lady Moore in *THE GARDEN*—I think last year—on the Citrange, which is a cross between the *Ægle* and the Sweet Orange. It would be interesting to hear to what extent this has proved hardy in England.—H. H.

[The article referred

to was published on March 4 of this year, page 105. If any readers have had experience with the Citrange in Great Britain, perhaps they will give us the benefit of their experience.—ED.]

THE TWELVE BEST SHRUBS.

THE discussion on this subject has interested me from the first on page 507 to page 550. I quite anticipated differences of opinion, being always in that mood myself. I have often been asked to give the best twelve or six, although I confided to myself that there was no such thing, just as expressed by Mr. Slinger on page 545. In the first place I decided for hardiness according to the part of the country from whence the enquiry came, and ease of cultivation, but often had to



A FRUITING SPRAY OF THE HARDY JAPANESE ORANGE, *ÆGLE SEPIARIA*.

overlooked during the present craze for new and striking colours, namely Harry Kirk. In the writer's opinion Harry Kirk is one of the most reliable, as well as one of the most beautiful, yellow Roses on the market, even though it is not of such a deep or striking shade of yellow as Christine, Golden Emblem, Mrs. Wemyss Quin, etc. The buds are deep sulphur yellow streaked with crimson, while the expanded flowers turn to a pale sulphur. It is splendid either as a dwarf for bedding or as a standard, and for table and house decoration is unsurpassed by any of its more gaily coloured rivals. It is also sweetly scented, which nowadays is, in my opinion, worth consideration. If I had room for six varieties only, the following in order of

hesitate on the score of the taste of the individual. This latter is borne out in everyday experience, and by the examination of various gardens, irrespective of size, I give the following as an excellent dozen without priority of merit: *Berberis Darwinii*, *B. stenophylla*, Lilac Mme. Lemoine, *Ceanothus Gloire de Versailles*, *Pieris japonica*, *Ribes sanguineum*, *Forsythia suspensa*, *Cytisus albus*, *Cratægus Pycnantha Lalandei*, *Eucryphia pinnatifolia*, *Magnolia Lennei* and *Prunus triloba flore pleno*. All of the above admit of massing, and the last named can be kept down to 3ft. by annual pruning as soon as the flowers fade. All, I think, could be grown in Cornwall, Nairn or Co. Down; but there are many inland counties where the *Ceanothus*, *Pieris*, *Eucryphia* and *Magnolia* might fail to give satisfaction. The lists already given ought to be valuable to planters—J. F.

I WAS much interested in your issue of October 28 to see the correspondence with regard to the Twelve Best Flowering Shrubs. I should much like to add the twelve which I consider most worthy of cultivation, and I beg to submit the following:—*Embothrium coccineum*, *Feijoa Sellowiana*, *Carpentaria californica*, *Pieris japonica*, *Andromeda cassinefolia* (*Zenobia speciosa*), *Tricuspidaria lanceolata*, *Callistemon speciosus*, *Drimys Winteri*, *Drimys aromatica*, *Plagianthus Lyallii*, *Eucryphia pinnatifolia* and *Eucryphia cordata*.

I fear that most of the above would only flourish in a mild climate. I grow them most successfully on the West Coast of Argyllshire, but I have been quite successful in growing, against a wall, in the West Riding of Yorkshire. *Drimys Winteri* and *Carpentaria californica*. There are many shrubs that I should like to suggest, but as your correspondent mentions twelve, I do not like to exceed the number.—(Mrs.) GWENDOLEN GASCOIGNE.

THE CAUCASIAN SCABIOUS.

READERS OF THE GARDEN who have a liking for lavender shades in flowers could not do better than go in for a stock of this lovely Composite. As a distinct, prolific and lasting plant for the herbaceous border it has few equals, and as a cut flower with its strong, long, accommodating stem, it is superbly decorative, lasting a long time in water, especially when the latter is frequently changed. The seeds are not very dear. Two shillings invested in a packet from a reliable firm gave us our sturdy stock. These were sown early in January in well drained pans in a fine compost of equal parts of loam, old mushroom-bed manure and sea sand. Gently watered, they were then placed upon a shelf near the glass in a temperature of about 50°, and germinated in about two months. When they were large enough to handle, they were potted off singly into 2½ in. pots in a similar compost to that in which they were sown. After planting them out in a well manured border in late May, they made good progress, and commenced to throw up their sturdy flower-stems in August. Though classified as a hardy perennial in most catalogues, this plant will not stand the rigours of a severe winter outside. This we found out to our sorrow in our first year's experience with it. In our second year's trial we took up the plants full of buds and flowers, and potted them into 6 in. pots in October and placed them in a cool greenhouse. What a wealth of bloom we had from them all that winter! In fact, this plant, with its clean, shining, rich green foliage, if given favourable treatment, would seem to flower for ever.—ROBT. MCHARDY, *West Derby*.

ABOUT SINGLE ROSES.

I QUITE agree with Mr. Jacob (pages 553-4) that we ought to collect and grow the single wild Roses that are offered us by enterprising

nurserymen in order to encourage them in this good work. When Roses have attained such a vogue as at present, I am surprised that no one in this country seems to have conceived the idea of making large or representative collections of Roses, single and double, in private gardens. More single wild Roses, however, are offered by the nurserymen than is apparently generally known. The late Mr. George Paul, who catered so long for our delight, and who gave us the best coloured Hawthorn—Paul's Scarlet Thorn—seventy-one years ago, also offered forty-three species and seventeen or more varieties of single wild Roses exclusive of the varieties of *Rosa rugosa* and its hybrids. Among them he offered *Rosa sancta*, which he considered probably the oldest Rose in the world. Another of recent introduction was *R. lucens*, the stems, leaves and even the thorns of which appear lacquered. He had awards of merit for two hybrids of this which he had produced. In another British Rose catalogue I notice thirty-two species and six or more varieties of single wild Roses offered. Twenty species and seventeen varieties, ten species and seven varieties, ten species and three varieties, and seven species and three varieties are offered in four other British catalogues which I have consulted. Such enterprise deserves encouragement.—HORTULANUS.

[Mr. T. Smith of Daisy Hill Nurseries, Newry, Ireland, offers no fewer than eighty-one species and sub-species in his list.—Ed.]

AN INTERESTING DELPHINIUM.

THE name of Delphinium inevitably brings to us pictures of the towering spikes of the hybrid Delphiniums, so indispensable in the herbaceous border, presenting as they do some of the greatest triumphs of the florist's and seedling raiser's art. In *Delphinium Brunonianum* we have, however, a Larkspur of quite different character and one which appeals more to the lover of distinct things than to him who is devoted to grand spikes and showy flowers. It is a low-growing species, rarely more than 2ft. high, and frequently less, and having quiet and quaint-looking flowers of purple which seem at times as if they had been dimmed on the surface yet not had their beauty destroyed. The plant is musk-scented, too, which gives it a distinct feature. It is not difficult to grow in ordinary loam, and can be suited well in the border. It is hardy and can be raised from seed or increased by division. There are two plants in nurseries under this name. They are alike in many points but distinct in others, and it is difficult to say which is the true species. Probably both are geographical varieties of the same plant.—S. ARNOTT.

[According to the late Reginald Farrer ("The English Rock Garden"), *D. Brunonianum* is a "curiosity from the high Alps, not more than a foot in height at most with large and rounded hairy flowers of pale blue in a loose and long peduncled corymb. The *D. Brunonianum* of gardens is usually of a deep and very sombre purplish black." The identity of the

plant known in gardens as *D. Brunonianum* seems wrapped in mystery. Perhaps some of our botanical correspondents can help to unravel the matter.—Ed.]

SEASIDE FLOWERS.

I AM enclosing a picture of a rock garden built facing the sea at Walton-on-Naze, which I think you may find interesting as shewing how well many plants succeed at the seaside. The following plants were in bloom at the time of my visit: *Verbascum Caledonia*, *Anchusa Opal*,



A SEASIDE ROCKERY.

Lupinus polyphyllus Moerhousii, *Verbascum densiflorum*, *Fuchsia Riccartoni*, *Spartium junceum*, *Cytisus præcox*, *Cytisus Daisy Hill*, *Cytisus Moonlight*, *King of Delphiniums*, *Foxgloves*, *Salvia virgata*, *Yuccas*, *Aster Amellus* in variety and *Erigeron Quakeress*: all these in the background. In the front of these there are *Geum Mrs. Bradshaw*, *Statice latifolia*, *Anemone Mont Rose*, *Verdona*, *Anthemis Cupaniana*, *Anthemis Kelsey's var.*, *Gypsophila paniculata*, *Sun Roses*, *Cistus* in variety, *Hencheras* in variety, *Enothera speciosa*, *E. Arendsii* and *Kniphofia caulescens*.

Rock plants in the foreground include *Saxifrages*, *Sedums*, *Violas*, *Veronicas*, *Aubrietias*, *Phlox subulata*, *Dianthus*, *Minulus*, *Primulas*, *Nepeta*, *Papaver alpina*, *Linums*, *Oxalis*, *Iris pumila*, *Lithospermum prostratum*, *Armerias*, *Artemisias*, *Arenarias*, *Campanulas*, *Alyssum*, *Cheiranthus Allionii*, *Audrosace Chunbyi*. Most alpines do well near the sea, and it is strange they are not more largely grown.—H. W.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Asparagus.—Where early supplies of this vegetable are required some arrangements should be made now to get the roots into their forcing quarters. One of the best places for bringing the grass along is a moderately heated range of pits facing south. Into these throw some stable litter and leaves well mixed together and sufficient to form a firm bed of about 2ft. Place on the top a layer of about 3ins. of sifted leaf-soil, then the roots to be forced, placing them quite closely together, and finish by covering with another 3ins. of fine leaf-soil. Give a good watering through a roset can and afterwards keep roots and atmosphere in an even state of moisture.

Broad Beans.—Unless the district is very cold and the soil a heavy one, there is certainly a gain in making an autumn sowing of Beans. While this vegetable delights in an open position generally, it is better to try to make this sowing in one a little protected. Space the seed in double drills about 3ins. apart, allowing a distance of 2ft. between each set of drills.

Peas.—Autumn sowing of this Legume is not practised so much as of the former, and, probably, where there is plenty of convenience for bringing along plants in the New Year previously to planting out, there is but little to be said in its favour. On cold soils the plan is certainly not worth carrying out. Where a sowing is made, choose a warm, well drained border and select a round-seeded variety, such as Pilot, which is one of the best I know for autumn sowing.

The Flower Garden.

Overcrowded Shrubberies are by no means an uncommon sight, owing in great measure to unsettled staff conditions. It may be that judicious pruning consistently followed for a few seasons will remedy some of the evil, but where several years of unavoidable neglect has to be dealt with it may be a wiser policy to remove some of the trees and bushes rather than overdo the pruning. Oft-times there is many a spot in the woodland near the dwelling which is admirably adapted for the surplus stock from a too thickly populated shrubbery. Now is the time to do the work.

The Reserve Garden may be called a necessary and most useful portion of the garden, particularly where large general supplies of bedding and other plants, as well as plentiful supplies of cut flowers, are required. The best and most convenient arrangement of such an enclosure would consist of simple narrow beds so that it is easy to pass between them to give necessary attention, etc. The portion devoted to plants grown to supply cut flowers should always be well cultivated, but it is not a good or a necessary procedure to have a great depth of rich soil in the beds used as nurseries for growing different plants on for removal later.

The Hardy Fruit Garden.

The Orchard.—There is no prettier spring picture than an orchard of fruit trees in flower, especially when drifts of Daffodils are added to it. Where a new orchard is in contemplation the ground should be well cultivated and thoroughly cleaned. Unless, of course, the whole of the ground is to be cropped, *i.e.*, between the rows of trees and between the trees as well, it is a waste of time and quite unnecessary to turn over the whole, but only where each tree is to be planted. Give the warmest positions to dessert fruits, plant firmly and stake securely. Any necessary pruning in established orchards can be dealt with as opportunity may offer during the next three months. There may be but little required other than cutting out to prevent the centres of the trees becoming too thick and the shortening of a few branches to keep a better balance. Also remove entirely branches which cross each other, and among old trees there will almost certainly be a few dead and decaying portions to cut away.

Fruit Under Glass.

Early Vines.—Should it be the aim to make a start by closing the house or pit in early December, permanent rods or pot plants should now be got ready by pruning and cleansing if not already seen to. Should mealy bug have been allowed a footing, every possible care should be taken to see that the cleaning, both of the plants and the structure, is very thoroughly done. Having put these two in order, any necessary work to

the border can be done. First of all remove every bit of loose manure, etc., then lightly prick up a little of the border, removing this also if at all sour, then apply about 3ins. of broken fibrous loam to which has been added a little old rubble, some wood-ash and a few fine bones. This top-dressing must be firmly done.

H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Cucumbers.—In pits where late batches of Cucumbers are coming into bearing they may be assisted with some quick-acting fertiliser. Should ordinary liquid manure from the byre be favoured, see that it is used in sufficiently warm a condition to cause no check to the tender surface roots. Keep all unnecessary growths in check, damping down only on bright days, at the same time keeping up a brisk and even temperature by the judicious use of fire-heat.

Tomatoes in Pits.—For early fruiting these plants must also receive strict attention at this time by keeping the temperature of the structure buoyant. A close atmosphere with too much fire-heat encourages soft growth which can ill resist the attacks of insect pests. Aim at having firm, stocky plants, keeping them as near to the glass as possible. While the plants should receive a thorough watering when necessary, added care must be taken to see that none gets the least water-logged, as nothing tends towards the failure of the early spring crop more than careless watering.

Forcing Asparagus.—Preparations for the forcing of this delectable vegetable should be made from now onwards. A heated pit is best for this purpose, and saves both time and labour. However, where accommodation cannot be spared indoors, excellent results may be had with the aid of a fermenting bed of stable litter and leaves. The latter being available in quantity now, a bed may be made up of one-third manure and two-thirds leaves. If the materials are turned a few times previously to forming the bed, sufficient heat will soon be developed for forcing Asparagus. The bed should be made large enough to hold one or two frames as desired. When ready for planting the roots should be lifted or strong crowns procured from a reliable seedsman, placing them closely together on a layer of old potting soil and packing firmly round the crowns with similar material. The temperature of the frame should be kept about 55°. When mild, sunny weather prevails admit air to keep the growths from becoming drawn and weakly. Cover the frames with mats should sharp frosts occur.

Parsnips.—It is not absolutely necessary to lift and store Parsnips for the winter, and many growers leave them in the ground until early spring. It is advisable in cold districts where frost and snow are frequent to lift and store in a cool shed, covering the roots over with sand or fine soil. Treated thus they will be found to keep perfectly succulent and free from that toughness so common with badly stored Parsnips.

The Hardy Fruit Garden.

Fruit Trees on Walls.—A start should now be made on the pruning and training of fruit trees on walls, so that as much work as possible may be completed before the winter is too far advanced. Should the ground be wet, several rough boards may be laid along part of the border. The work may then be done more comfortably, while trampling of the surface of the border is prevented. Where the growths of Morello Cherries have become congested the branches should be loosened from the wall and all worthless shoots removed. The main branches should then be evenly distributed over the allotted space, while the strong young fruiting shoots should be tied in about 6ins. apart. The pruning of Sweet Cherries is entirely different from that practised in the case of Morellos, for the Sweet Cherries fruit best on spurs. Where summer pruning is done spur formation is encouraged and the trees require little attention now.

The Flower Garden.

The Herbaceous Border.—The occupants of the herbaceous border having now passed their flowering period, may be cut over and the borders made clean and tidy for the winter. A dressing of well rotted manure or the material from a spent hot-bed should be applied now, pointing it lightly

in. In borders where quantities of bulbous plants are grown the work of forking over is best left until the spring or such times as the majority show above the surface.

Violets in Frames.—To prevent damping, the plants need to be examined at regular intervals, removing all decaying foliage. Admit air on all favourable occasions and protect from frost by suitable coverings.

JAMES MCGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock.

GREENHOUSE AND CONSERVATORY.

Tibouchina semidecandra, also known as *Pleroma* and *Lasiandra*, is a fine plant for autumn and winter flowering, and for some weeks now has been producing its large purple flowers with great freedom. It may be used for clothing a pillar or rafter in the conservatory, but is seen at its best when it can be trained over a wall or the gable end of a conservatory. It is best planted out in a restricted root-run, as it is a rampant-growing plant and requires considerable space to display itself to the best advantage. During the spring the plant should be pruned hard back, and as it breaks freely, some of the weaker growths should be thinned out. During the spring months it is easily propagated by means of the smaller twiggy shoots and as cuttings. If the plants are kept regularly pinched until August they form nice bushy plants in 6in. pots for the stages, and to ensure freedom of flowering they should be well exposed to sun and air to ripen the wood.

Peristrophe speciosa is another useful plant for autumn flowering, as it produces its flowers freely over a long period. The flowers are reddish purple, almost magenta in colour; not a popular colour it is true, and requires careful placing, although it groups well with pale yellow. A native of the Himalayas, this is easily propagated during the spring by means of cuttings, and succeeds under perfectly cool conditions throughout its growing season.

Lindenbergia grandiflora is another Himalayan plant with pale yellow flowers that is useful for autumn and winter flowering. This plant is also easily propagated by means of cuttings during the spring, and requires cool treatment, but it is by no means such an easy plant as the *Peristrophe* to grow successfully.

Philesia buxifolia is a very beautiful Chilean plant which is hardy in the West. Its red flowers are like miniature *Lapageria* blossoms. *Philageria Veitchii* is a hybrid between *Lapageria* and *Philesia*, and is probably very rare in cultivation to-day. The *Philesia* is a rare-loving plant, and succeeds in a similar compost to the greenhouse *Ericas*. It enjoys a cool, moist atmosphere. This is by no means an easy plant to grow successfully, but is worth some extra trouble, as a well grown specimen in full flower is very beautiful indeed. Its propagation by means of cuttings is slow and uncertain, and it is best increased by layering, which is easily done by using the suckers it sends up from the base of the plant.

Lapagerias.—Where a suitable situation can be found, *Lapagerias* are beautiful climbing plants for the conservatory. They do best on the coolest part of the house and do not object to partial shade for at least part of the day. Good specimens may be grown in large, well drained tubs, but they are seen at their best when they can be planted out in a well drained bed or border. If planted in such positions it is well to confine them to a portion of the border by means of slate slabs. This is necessary as they travel so far at the root and send up suckers where they are apt to get damaged. Slugs are very fond of the young shoots, and often do much damage unless they are carefully guarded against. Some cotton wool wrapped round the base of the young shoots until they become hard is a good preventive. The sites for the plants should be well drained, and the compost should consist of good fibrous peat and loam, which is best used in a rough, lumpy condition, with plenty of coarse clean sand to keep the whole open and sweet. It is also an advantage to add some charcoal to the compost. *Lapagerias* are subject to attacks of a small white scale, and now is a good time to take down the plants, thin them out where they require it, and clean them thoroughly before retying them. This requires to be done with great care, as the shoots are very brittle and easily damaged. *Lapagerias* can be propagated by means of cuttings, but it is a slow and uncertain process, and they are usually increased by layering; they then take twelve months to root, which accounts for the fact that plants are always fairly expensive.

Royal Botanic Gardens, Kew.

J. COURTS.

THE FORTHCOMING BRITISH EMPIRE EXHIBITION

Its Horticultural Possibilities and the Facilities Afforded.

THE British Empire Exhibition, which will open at Wembley Park, London, in the summer of 1924, will devote considerable space to British horticulture. The gardens that are now being laid out will not only be a worthy setting for the largest and most influential exhibition that has ever been held in the Empire, but will furnish a complete record of the development and progress of our horticultural industries.

Their extent and importance are, indeed, far greater than is generally realised. Exhibitions held periodically under the auspices of the Royal Horticultural and other societies afford some idea of what is grown, but their limitations with respect to space and time prevent that full and continuous display which would adequately present British horticulture in all its aspects. The facilities that can be afforded at Wembley Park will, if taken full advantage of by the horticultural trade, be a great improvement on all previous efforts for the advancement of the various industries concerned. The areas that are being reserved will be prepared with suitable soil for the permanent occupation of groups of hardy trees, shrubs, herbaceous perennials and all kinds of summer-flowering plants. Suitable conditions will also be available for a great display of bog and water-loving plants in and about the margins of the several lakes in the park.

It is intended to retain the existing sylvan beauties of the Park, adding to them all the best that horticultural art can provide. To do this the aid of all our great nurserymen and florists is being sought, and they will be assisted by the Exhibition staff in the planting and care of their exhibits. It is expected that the grounds will be ready for all permanent planting by next spring with a view to getting the plants established and in growing order by April, 1924, when the Exhibition will be opened. A Committee of experts experienced in the organisation of horticultural exhibitions will supervise the arrangements.

When the lay-out of the grounds is completed and the allotment of space decided upon, it is intended to prepare plans of the various sites that will be available for a horticultural display. No charge will be made for these sites, the only condition being that they should be furnished with plants in keeping with their surroundings and maintained in good order throughout the period of the Exhibition.

Special provisions are also being made for exhibitions of tender plants, *i.e.*, Orchids, Palms, Ferns, etc., also for fruits and vegetables, and the committees of the several horticultural societies are being invited to hold their exhibitions at Wembley in 1924. A large hall with a floor area of about 12,000ft. and ample top light will afford space and suitable conditions for this.

Provision will be made in one of the main industrial buildings for the display of models of greenhouses and other structures, statuary, machines, hot-water apparatus, implements, garden furniture, plant foods, insecticides and fungicides, and horticultural sundries generally. These will be on show if desired during the whole period of the Exhibition. A charge will be made for space for such exhibits, particulars of which will be furnished on application. Sites can also be hired in the open air for the display of full-sized greenhouses, summer-houses, garden seats

and other articles which do not require to be under cover.

The accessibility of Wembley Park from London and the provinces is exceptional. No exhibition site has ever enjoyed such traffic facilities. There are two main line stations close to the grounds, and the great trunk lines of Britain will be able to run trains direct to the Exhibition. There is, further, direct and quick railway, tram and motor 'bus communication between Wembley and all parts of London. A few of the distances by train are: Baker Street, 10mins.; Charing Cross, 18mins.; Euston, 15mins.; Paddington, 14mins.; Richmond, 20mins.; and Willesden, 5mins. A special siding for goods has been constructed within the Exhibition so that it will be possible for packages of plants, etc., to be conveyed direct from nurseries, etc., to the exhibitors' stands.

The Exhibition will be open daily from April till the end of October, 1924.

BOOKS

A Flora of the Riviera.—Mr. Stuart Thompson's book on "Flowering Plants of the Riviera,"* a copy of which was recently received for review, is not exactly new. It was, indeed, published as long ago as 1914, but the thoughts of all of us were, at that time, directed to quite another part of France! The work is excellently got up and arranged and should be invaluable to anyone contemplating botanising along the *Côte du Sud*. Even to the more casual amateur gardener-botanist it should be very helpful, for it is far more interesting if one can readily trace the name and lineage of some new plant which one admires. Brief but adequate descriptions are given of about 1,800 plants and twenty-four plates illustrate in colour no less than 112 of the species, while there are sixteen photographs of the vegetation. An admirable chapter on collecting and preserving plants is not the least valuable part of the book. It is immediately followed by an excellent glossary of botanical terms which should make the descriptions understandable to the tyro. An introduction on Riviera vegetation by Mr. A. G. Tansley, is also very helpful. The book, though extending to some 250 pages, is printed on thin but tough paper, so that it will easily slip into the side pocket, a great convenience in the case of a work of this kind.

In Sun and Shade.—We have received a little twenty-page booklet† which might serve as a token of friendship to send to a flower-loving friend at Christnastide. It consists entirely of verse and reproductions of painting in colour by the author, no doubt a lady. The verses are unpretentious, but none the worse on that account and the little pictures quite attractive.

Oddments!—We have received for review a slender little volume called by the above-written illuminating title‡ and owning as author and compiler a Dr. Gilbert E. Brooke, at present Chief Health Officer, Straits Settlements. Largely in

* "Flowering Plants of the Riviera," by H. Stuart Thompson. Published by Longmans, Green and Co., 39, Paternoster Row, E.C.4.; 8vo. Now reduced to 7s. 6d. net.

† "Gardens in Sun and Shade," by M. Aumonier. Published by O. Anacker, Limited, 38, Soho Square W.; price 1s. 6d. net.

‡ "Oddments, Being Extracts from a Scrap-book," by Gilbert E. Brooke, 2, Fort Canning Road, Singapore; price not stated.

verse, but partly in prose, this whimsical little book is a welcome companion for odd half-hours. The reviewer could not at first see its special interest to readers of a newspaper devoted to gardening, but his eye presently caught an article beginning "Gardening is such an absorbing subject" which proved to be a description of the "cultural" and other peculiarities of *Clavus gallicus*—the French Nail! The very subtle humour of the author cannot, however, be well illustrated at second-hand. A short poem with the metre and very flavour of Longfellow's "Hiawatha" called "Dainty Dishes" is particularly well done, but it must not be assumed that all the oddments are facetious or even humorous. All are interesting reading, however, and, as was suggested before, this booklet, for it is little more, would be a welcome pocket companion for anyone at a loose end for an hour.

Hardy Fruits in North America.—The Macmillan Company of New York have just published an authoritative work on Hardy Fruits cultivated in North America.* The compiler, Dr. U. P. Hedrick, is "Vice-Director and Horticulturist" of the New York Agricultural Experimental Station. American readers of *THE GARDEN* who are interested in fruit culture should certainly procure this very comprehensive work. To readers in the British Isles it is chiefly interesting as shewing how entirely different are the varieties of Apples cultivated "across the Pond" from those ordinarily grown here. In the case of the Pear, on the other hand, the varieties grown are pretty much the same in both continents, though Bartlett, as the Americans call Bon Chrétien, is more popular "over there" than Pitmaston Duchess, which is the more useful variety on this side. The book is divided into eight parts, Part I being devoted to "Pome" Fruits—Apples, Crabs, Pears and Quinces; Part II Drupe Fruits—Apricots, Cherries, Nectarines, Peaches and Plums; Part III to the Grape Vine; Part IV to Brambles—Raspberries, Blackberries and Dewberries; Part V to Currants and Gooseberries; Part VI to Heath Fruits (mis-spelled "Health" Fruits in the Table of Contents)—Cranberries, Blue Berries and Huckleberries; Part VII to Strawberries; and Part VIII to Miscellaneous Fruits—Persimmons, Mulberries, Pawpaws, Elders, Highbush Cranberries, Buffalo-Berries, Goumis and Barberries, a chapter being devoted in each part to the botany of the section and in subsequent chapters very careful descriptions being afforded of each variety. Many varieties are illustrated diagrammatically, and there are sixteen plates, four of them excellently reproduced in colour. This is an admirably arranged work, quite destitute of verbiage. It might be taken as a model by authors desiring to impart information concisely.

EDITOR'S TABLE

From Messrs. Artindale of Nether Green, Sheffield, the Editor recently received some admirable trusses of *Primula obconica*. These shewed a very considerable and good range of colour, one or two of the deep crimson forms being especially noteworthy. Some of the fimbriated sorts were also very attractive. Quite by accident these flowers were seen by Dr. Macwatt of Primula fame, who was much "taken" with them. He especially remarked on the neatness of the "eye" in all those sent and said he was inclined to consider them the best "obconicas" he had seen. It is not sufficiently recognised how easy these plants are to grow.

* "Cyclopedia of Hardy Fruits," by U. P. Hedrick; 4to. Published by The Macmillan Company New York; price \$6.00.

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HARDY PRIMULAS FOR GARDEN AND WILD

THERE are many gardens in which Hardy Primulas are held in no esteem in which, indeed, they are conspicuous by their absence. On light, dry soils there is much excuse for this neglect, at least as regards the many moisture-loving species, but any soil not absolutely devoid of humus will grow the various forms of our native Primroses and Cowslips to perfection provided advantage is taken of the shade of trees and shrubs. The value of coloured Primroses, particularly of the blue ones, is undoubted, and if their merits are not discussed at length here it is simply because, to do them justice would require a moderately long article.

Coloured Cowslips are not grown to a title of the extent to which their merits would seem to entitle them. In natural-looking colonies in the shade of shrubs they are exceedingly attractive. As they reproduce themselves freely from self-sown seeds, they should appeal to those very numerous garden owners who are compelled to curtail maintenance costs. Their comparative lack of popularity is almost certainly due to the fact that they do not shew to advantage on the show bench. No doubt they could be staged effectively if someone thought it worth while, just as the late Mrs. R. V. Berkeley set up coloured Primroses effectively.

There are many hardy Primulas which are quite happy wedged between stones in the rock garden and which require no more than an average amount of moisture. The florists' Auriculas are by no means enamoured of wet ground; indeed, the choicer varieties need culture under glass chiefly because of their propensity to "damp off" in the dank days of late autumn and winter. Some few species like a rather dry position, preferably in open woodland. This particularly applies to the *cortusoides* (*Sieboldi*) group, which includes *PP. saxatilis*, *Sieboldi* (many varieties), *Veitchii* and *lichiangensis*. *Primula saxatilis* is almost always met with in gardens as *P. cortusoides*, which is rare in cultivation. *P. saxatilis* is an equally good and effective plant, however, with lilac rose flowers

P. Veitchii varies considerably in flower colour from a rather washy, but not pale, lilac rose to a brilliant rosy purple nearing magenta. Despite the testimony of the late Reginald Farrer to its hardiness, this *Primula* withstands an average winter inland only in specially favoured situations. It is certainly more tender than most of the forms of *Primula Sieboldi*. *P. lichiangensis* is somewhat similar to *P. Veitchii*, but the foliage is stiffer and more robust, the flower-stems more rigid and erectly carried, and the flowers, which are a little smaller, have a conspicuous dark eye and

very distinct brown calyces. The colouring of the flowers, a deep rose, is also practically constant. This is a far hardier, more interesting and better plant than *P. Veitchii*.

The saxatile smooth-leaved forms of *PP. Auricula*, *viscosa*, *villosa* and *hirsuta* are easy enough in the rock garden. *Primula Auricula* itself is not so often seen in gardens as it should be. The leaves are mealy and the flowers a beautiful clear yellow. The plant is more compact and desirable when growing in a compost containing an abundance of lime, but it is by no means difficult in any really well drained soil. *Primula hirsuta* is, sad to say, usually called *P. viscosa* in gardens. It is a highly desirable species with bright rose or mauve flowers and the foliage clothed with yellow or tawny hairs. Overshadowed nowadays by many garden forms and hybrids, the best of the wild forms of the species are well worth growing. They are less formal and, if one may say so, more natural looking. *P. villosa* is nearly related, but the foliage is limper and the hairs are longer and darker and equally dense. *P. viscosa* (true) is generally listed as *P. latifolia*, which, indeed, is fairly good as a descriptive name. The flowers, which are carried on fairly tall stalks, are violet purple, and the whole truss hangs to one side. The broad foliage is greivish green in colour, lax in texture and has an objectionable odour.

The garden forms of *Primula hirsuta* (generally listed under *P. viscosa*) are almost all hybrids and are best referred to *P. s. pubescens*. They are all miniature forms in various colours of the garden *Auricula*, which botanically is now itself classed as *P. pubescens*, this name being reserved for all cross-breeds of the four species (or any two or three of them) already mentioned. *Primula Mrs. J. H. Wilson*, *P. The General*, *P. Mrs. Barclay* and a whole host more together with the beautiful white-flowered plants usually grown in gardens as *P. nivalis* and *P. helvetica alba* are all referable to *P. s. pubescens*. *P. viscosa alba* is occasionally met with, but there is a very beautiful pure



A FINE COLONY OF PRIMULA FRONDOSA.

white form near akin but with *P. Auricula* blood which should be referred to *P. pubescens*.

Primula marginata is another of the *Auricula* kindred, and one of the most lovely. It lifts itself above the ground on ever-lengthening woody "trunks" and in gritty soil spreads rapidly, soon forming an involved mat. The flowers are a very pleasing amethyst shade, but perhaps the principal charm of the plant centres in the foliage. Stem and furled leaves are swathed in golden farina, and the prettily notched expanded foliage is distinctly edged with it; hence the specific name.

The *farinosa* group of *Primulas* is represented in Butan by the beautiful Bird's Eye Primrose, *P. farinosa*, one of the most widely distributed of plants. Farrer considered it the loveliest of our native alpinists, but not everyone, we imagine, would agree with him. The rosettes of mealy foliage are exceptionally charming, however, and the flowers, which are carried in loose umbels, are, if not brilliant, exceedingly dainty and attractive. On page 587 we illustrate *P. frondosa*, which is the most robust of the *farinosa* section, and which will naturalise itself in any light, open, well drained soil.

Many of the moisture loving *Primulas* and certainly the most showy species, belong to the *Candelabra* section, that is, those in which the flowers are produced in whorls, "tier upon tier."

Primula japonica was the first introduced, and is still perhaps the best known, of the water-side or wet-ground *Candelabra* species. It is a robust species which under favourable conditions reproduces itself very freely from self-sown seedlings. There are so many bad forms about that it is well worth going to some trouble to procure really good ones. The typical plant is crimson—in a good form a rich velvety blackish crimson—but the plant is now procurable in a wide range of colours, including pure white with a rich golden eye. Many of the plants sent out as *P. japonica alba* are of a dirty buff colour usually tinged around the eye with rosy shades and altogether abominable. There is a brilliant deep salmony rose form which is very desirable, and there are other good rose forms of softer colouring.

Primula pulverulenta is by many considered little more than a mealy stemmed form of *P. japonica*. To those who know the two plants well, however, there is an immense difference, and it must be admitted that *P. pulverulenta* makes the older plant look very "cablagic" and commonplace. The mealy stems of *pulverulenta* tower much higher than those of the Japanese, the flowers are larger and handsomer and are better spaced, and the spike has more tiers and is more spiry. The spike of *P. japonica* has a tendency to be round headed. The difference between the two plants is clearly shewn in the pictures illustrating them on this page. A solitary plant of *P. japonica* may be seen near the water-side in the picture of *P. pulverulenta*. Both plants like wet ground yet are their cultural requirements not precisely similar. Whereas *P. japonica* will flourish in not too dry woodland and luxuriates in any rich garden soil quite away from water, *P. pulverulenta* is less accommodating in that respect. It may be grown under such conditions certainly, but does not give of its best and is very prone to attack by red spider. *P. japonica*, on the other hand, is not an aquatic, and if submerged for any length of time through water flooding, will perish. The more recently introduced species will tolerate, even appreciate, such flooding, and will grow well in wet places in quite dense shade even under the drip of trees, where *P. japonica* would fail. There are two pink forms of *P. pulverulenta* in existence. One, a very soft, almost blush pink with a yellow eye,



PRIMULA PULVERULENTA IN THE DELL.



THE YELLOW TINGED APRICOT PRIMULA BULLEYANA.



PRIMULA JAPONICA IN THE WILD.

MICHAELMAS DAISIES

The composition of my collection.—Climax for ever.—A rapid run through the Novi-Belgii.—Oh! what a surprise!—Smaller fry.

was certificated as Mrs. R. V. Berkeley. The other, which is more robust in habit, has salmony pink flowers and a rich orange eye, and is perhaps the most beautiful of hardy Primulas. When offered by nurserymen at all it is usually as Mrs. R. V. Berkeley, but it is absolutely distinct from the true stock of that variety.

Primula Bulleyana can be described very briefly as a rather late-flowering P. japonica with orange yellow flowers with rather an apricot tinge. They are, however, much more yellow in colouring than Rose Lady Hillingdon, for instance. Primula Beesiana is still later flowering, and therein lies its chief value. It is, however, a less desirable species than either of the three last mentioned. The flowers are reddish purple. The best coloured forms have more than a hint of magenta; the others are dowdy in the extreme.

Primula Cockburniana is a much smaller plant, growing only roins, or 1ft. tall to the top of the developed inflorescence. It has flowers of a fiery coppery orange colour, but being of little better than biennial duration, chiefly appeals to the gardener on account of the many attractive hybrids of which it is one parent. It crosses exceedingly readily with P. pulverulenta to produce, according to the way the cross is made, the plants known as PP. Lissadell Hybrid and Unique. Both are of a curious mahogany colour lit with salmon and extraordinarily brilliant in sunlight. Lissadell is freer to flower, rather paler and smaller than Unique. By crossing P. Cockburniana with one of the pink P. pulverulenta forms, paler shades are produced, but most of them are rather washy in colour and undesirable. All these Cockburniana × pulverulenta crosses are fertile, and there is consequently a practically endless series of forms between the two parents. Some of the very finest dark forms of P. pulverulenta are produced as recessives in this intercrossing. They accordingly breed true. A form of P. Cockburniana is produced in a similar way, which is even fierier in colour and more robust-looking but less free-flowering. This is a better perennial than the plant as introduced.

With PP. Bulleyana, and Beesiana Primula Cockburniana crosses also, but not so readily as with P. pulverulenta. Some of the Beesiana hybrids are very striking and beautiful, others quite valueless. The same remark applies to the hybrids between PP. Bulleyana and Beesiana, for the two species intercross readily enough.

Primula Poissoni is another of the Candelabra section, but very distinct. It has smooth glossy, rather flaccid foliage and whorls of blossom of an unattractive shade of magenta purple. An easy doer, it likes partial shade.

Other wet-land Primulas include the well known but admirable P. rosea, P. involucrata with bluish white flowers; P. Wardei, somewhat similar, but of a lively, if variable, pale violet colouring (this is the plant usually listed as P. sibirica); it is peculiarly valuable because so often in flower); PP. sikkimensis, chionantha, helodoxa and Parryi. Primula sikkimensis with its nodding pale sulphur yellow cowslip-like flowers is a general favourite but a short-lived plant. The creamy white P. chionantha is related but more robust-looking, and will probably prove more truly perennial. Primula helodoxa really belongs to the Candelabra section, but differs from other species in the section rather considerably. It is a tall species, very easy to grow in moist ground, and the flowers are a pleasing shade of soft but rich yellow.

There is a multitude of interesting species even now not mentioned, but, except for the members of the capitata group whose confused nomenclature we hope shortly to tackle, few are of much garden value.

IT is very possible that many people have grown a larger collection than I have, but I can safely say that even if they had had ten times the hundred and twenty-five varieties that I have had they could not have given them more pleasure nor provided them with more interest. I want to make plain my limitations. There was none of the Amellus section. These somehow seem only half Michaelmas Daisies on account of their stature and their flowering period. There was not a single example of a Novæ-Angliæ, because I do not care for them so much as I do for the Novi-Belgii and my garden is not elastic. I have very few doubles, again for the last-named reason. They do not

consideration of garden ornament, the consideration of fine graceful habit, the consideration of a perfectly delightful flower and the consideration of grace in a vase—let alone that of being nearly mildew-proof, no other Daisy is quite what Climax is. I take my hat off to Edwin Beckett, its raiser; and after this act of homage I pass on to deal with some of those of this splendid race which have "found me" in 1922. King Albert is a tall man with a wide outlook on affairs. King of the Belgians is his counterpart in a Michaelmas Daisy. It is very tall, very handsome, and its great big rosy lavender blooms are "just right." They are not a bit out of keeping, as are the soup-plate blooms of



MR. EDWIN BECKETT'S MICHAELMAS DAISIES.

appeal to me at all, and one has to cut something out. These facts will explain what otherwise many would think strange omissions in the list. Can I call any one "mea rosa"? any one "the apple of my eye"? any one "the pink of perfection"? I think I can; at all events if I were tested by being told I might only grow one Michaelmas Daisy in my garden, it would not be the magnificent towering King of the Belgians with its great big flowers; it would not be the lovely soft pink Louvain; it would not be the beautiful bright rose General Leman or the rather softer clear-toned Hilda; I would pass over the hair-like petalled Miss Eisle; even the Edwin Beckett that came from Wells and is not a deep blue cordilolius, would have to be given—very grudgingly I own—a reluctant cold shoulder.

"The great Emathian conqueror bid spare
The house of Pindarus, when temple and tower
Went to the ground."

So would I beg for the life of Climax if all my beauties had to be destroyed by a cruel fate. Taking one consideration with another—the

much shorter Bruges, although the extraordinary floriferousness of this last compels the attention of even the least observant. A variety of somewhat similar colouring, but with no rose tint in the mauve, is Brussels. It is almost a true lavender, but these shades are very difficult to describe with accuracy when there are so many different varieties whose colouring runs very much one into another. Blue-toned helios of the first water include Climax and also Feltham Blue. This last has a very deep yellow eye and, what after all is to me a most valuable asset, it is a clear clean-cut flower. Would you like the "wee modest crimson tipped flower" if its centre were all blurred and half its tiny florets seemingly undecided if they were to dress for the centre or the outside? It would not then very much matter if

"Stern Ruin's plough-share drives elate
Full on thy bloom."

In fact, there are some Michaelmas Daisies which I would dearly like to see sharing that fate. The greatest offender in my collection is not contented with putting up a much blurred central

flower, but there are an innumerable number of smaller ones tightly packed all round it *à la* hen-and-chicken Daisy. I do not know its name. I wish I did so that I might fence it with a notice board "keep off." It came to me under the name of Mrs. Twinan, but as it is a deep helio and no more pink than an Emperor Daffodil, it cannot be that variety. I know now why I saw a well known would-be purchaser look under the flower of a fine white seedling that he was asked to consider with a view to a purchase and why that wise head shook as if it would come off after he had inspected it. It had the mark of the beast writ large behind each central flower. Careful man! Keeping in a rough way to colour, no one should be without Edith Goodwin. It has such a splendid habit—feathered with subsidiary sprays all down to the ground; clean-cut flowers not far off the shade of old Attraction. I never seem to remember any pinks in olden days. There cannot have been many, but now we have Louvain, Lady Lloyd, Thelma Perry, Mrs. Wheeler Bennett, Mrs. H. Morris, Sunset, Pink Perfection and the spidery petalled Ethel Ballard. These far from exhaust them, but I do not wish for any more. Of these give me Louvain, tall, branching, reminding one in a distant way of Climax, and of a lovely soft colour which keeps pink to the end; Sunset next, later to flower and shorter in stature than Louvain and more of a typical Michaelmas Daisy in its habit; as a third, Lady Lloyd, paler in the centre of the flowers than at the outside, which adds to their charm, early to bloom and exceptionally free.

How difficult it is in many cases to say where one begins and the other leaves off. Heat and cold, for example! How about pink and rose? There must be a watershed down one side of which go the pinks and down the other the roses, but it is to me a *terra incognita*. Hence one is a little uncertain about one's labels, and passing from pink to rose is rather a ticklish job. However, General Lemna is a rose, and it is a rose which keeps rose to the end. This, however, is where that much puffed-up variety Brightest and Best signally fails. Dainty, now, with similar semi-double flowers, does keep rose all its life, and is far brighter and more pleasing if it is not so tall and has rather smaller blooms. Hilda, although the edges of its petals incurve, which is a trick I do not at all like, nevertheless at a distance stands out as a really beautiful shade of rose. It is fairly tall, and I have it down as of a nice branching habit. This is, unfortunately, the failing in the case of Sirius, which, were I to judge it by its flowers alone, would almost be my favourite rose. It has such a large, attractive centre, round which the bright ray florets are so orderly arranged that the whole effect is exceptionally smart. It is, alas! one of the "mop-heads," a name I have coined to express the type which bears all the blooms in a sort of more or less flat mass at the top of the plant, as we get, to take a second example, in Reverend Nunn, the variety which, of all the many perennial Asters I know, may be called blue, not, of course, a blue like Forget-me-not or Tecophilaea blue, but not bad for a Michaelmas Daisy.

Collection growing is wonderfully exciting work if you have a good proportion of unknowns among those you have got together. Do try it if you never have done so. Colour scheming is a dull job compared to collection growing, in my opinion, but *chacun à son goût*. Among my most pleasant surprises were Magnet and Edwin Beckett, as I got it from Amos Perry. The best of these is a rich dark helio several tones deeper than Belgian Queen. It is a true counter part of Climax in its habit of growth, but, like

Belgian Queen and The Queen (another good Michaelmas Daisy), it is late to come into bloom, which makes it of additional value. The individual flowers are 2½ ins. to 3½ ins. across. Perry's Edwin Beckett I am very much inclined to put *proxime accedit* to Climax. I hardly dare begin to write about it and sing its praises. It is a mid-season bloomer—a good 5ft. high—the much-branched stem all crowded over with medium-sized pale lavender blooms, and as each one has a nice little pedicel of its own, the result is that the whole *tout ensemble* is lightness itself

"The rose that all are praising
Is not the rose for me."

No, Mr. Baily, I can only say "not always." Whites seem none too plentiful. Sam Banham has improved on acquaintance, but I, personally, still like Perry's White the best, although Maid of Colwall runs it somewhat close. For vases Nina Redman is very charming. It is so light-looking and graceful and, being one of the early birds of the race, we give it a double welcome.

Now I hear someone thinking aloud, "Why the fellow has never mentioned any of the smaller fry. Does not he care for them?" On the whole I do not think I do, but there are *many* exceptions. Little Bo-Peep, which was a present from Mr. Vicary Gibbs, is a real topper—Photograph, Ideal and the rest of you cordifolius people, you must retire. Little Bo-Peep was the universal favourite. Its wealth of small delicate lavender blooms appealed to everyone. As a good companion to the above why not the old Diana? Where does this differ from cordifolius elegans? I have them both, or as it seems to me, I have the same thing under two names. If this is correct, Diana has been before the public for the last twenty years and still goes very strong. "Time!" If, Mr. Editor, you think all this has been interesting, may I beg a little more space another week still further to unburden myself of some of the things I would like to say? I make my appeal as a devoted slave of the "slave" of our autumn gardens. Will anyone challenge this?
JOSEPH JACOB.

THE HERBACEOUS PHLOXES

Is their Place the Herbaceous Border?

I HAVE often thought it rather strange that if the average gardener is asked for a list of plants for the herbaceous border, he almost invariably starts by mentioning "Phlox," by which, of course, he means the erect-habited decussata and suffruticosa forms. Unquestionably the best results are obtained with these when they have a border allotted to them. These Phloxes are rather shallow rooting, very gross feeders and intolerant of drought. If planted in the herbaceous border special attention must be given to them most seasons, but they are easier to attend to and do better when given quarters to themselves. Given an abundance of moisture at the root, they do not object to sun-heat, although the salmon

shades fade badly in sunlight. They are less troublesome to grow, however, in a border with a north or west aspect and, preferably, backed by a wall. Hedge roots abstract much nutriment from the soil and, what is perhaps even more important, they render it almost impossible to keep an adequate supply of moisture in the soil.

Phloxes should be replanted at least every two years. Growers for exhibition usually replant every season. It is quite possible to grow fine spikes from divided plants if care is taken only to retain the vigorous outer portions of the clumps. Propagation from cuttings is, however, quite easy, and many people will consider Phloxes as worthy of careful



A BORDER OF PHLOXES AT NEW PLACE, LINGFIELD.

TREE AND SHRUB GARDEN

THE HAWTHORN FAMILY.

propagation as *Chrysanthemums*. Who nowadays propagates the Queen of Autumn by dividing the stools? The plants offered by nurserymen are almost invariably from cuttings, so that the amateur makes a good start and is set a good example!

Cow manure is generally advised as a fertiliser owing to its moisture-holding property, especially on light soils, but good horse dung is excellent. Wakeley's Hop Manure is exceedingly valuable for its moisture-holding properties and is, of course, a fertiliser as well.

It makes an excellent mulch for use in droughty weather, but lawn-clippings or other material may, at a push, be pressed into service for this purpose. The surface should be broken with the hoe before the mulch is applied, but only the top inch should be broken, or damage will be done to the spreading roots.

To be effective the plants should be set out in groups of a size proportionate to that of the border. Each group should consist of at least three plants; a dozen or eighteen will hardly be too many for a large border. Eighteen inches between the plants is a suitable distance. A certain amount of thinning out of the weaker growths is essential if the best results are to be obtained, this being especially the case where plants more than a year old are concerned.

Phloxes certainly do well by the waterside in places where a constant level of the water is maintained, so that, never flooded, their roots always have access to an abundance of moisture. I should not, myself, plant them there, because I do not think their habit of growth lends itself to such planting, but that is purely a matter of taste.

The question of varieties, now that there are so many sorts in cultivation, is rather a difficult one, but the following are all excellent for garden decoration.

For the garden I have yet to see the white sort which surpasses the old *Sylphide*. *Frau Ant. Buchner*, however, is the one generally grown, and *Tapis Blanc* is useful for the extreme front of the border. *Mauve Queen* is probably the best mauve; it has a white eye, but in slightly different colouring, *Antonin Mercie* is good. *Mr. Jacob* has an excellent selection of really bright border sorts in last week's issue. *George A. Strohlein* and even the old rather small-flowered *Coquelicot* might be added to these as desirable. That grand old sort *Selma "J. J."* mentions among the dwarf ones. Another admirable cream pink is *Hanny Pfeleiderer*. *Violet Phloxes* are in demand for some purposes, but at present the quality is indifferent. Perhaps the best is *Le Mahdi*, but there is immense room for improvement in this colour. W.

THE hot summer and autumn of 1921 ripened the wood of many trees and shrubs so thoroughly that they flowered more freely than usual this year, and those that flowered early, while the weather was good, set very heavy crops of fruit. This was the case with the Hawthorns, and rarely

the best species and varieties for present planting.

Many people pin their faith to the double-flowered forms of the common Hawthorn, and they are certainly very beautiful in May, but they have one great defect, they produce no fruit. Possibly the best of the doubles is *Paul's Double Scarlet*, a variety with rich, bright red flowers, but *alba plena* and *candida plena* with white, and *rosea plena* with rose-coloured flowers are also good. These are all varieties of *Crataegus Oxyacantha*. Other varieties of the same species are *coccinea* with single red flowers, *coccinea pendula* of weeping habit and *fructu-luteo* with yellow fruits. Of the other form of the common Hawthorn, *C. monogyna*, the following varieties are specially worthy of note: *aurea*, yellow fruits; *granatensis* and *fusca* with large red fruits; *pendula* with weeping branches; *præcox*—the *Glastonbury Thorn*, which blossoms in mid-winter—and *stricta*, remarkable for its stiff, erect branches, which have the same effect as those of the *Lombardy Poplar*.

There are many other species that are equally beautiful in flower, and more so in fruit, for the fruits are larger and brighter coloured than those of the common Hawthorn. *C. coccinea*, a North American species, is one of the best known. Forming a tree 20ft. to 25ft. high with a large and wide-spreading head, it is one of the most regular of all Thorns in flowering and fruiting. The flowers are white, $\frac{3}{4}$ in. across and produced in large, flat heads. The flowers are followed by pendent bunches of bright red fruits, each fruit being $\frac{1}{2}$ in. in diameter. They are ripe in September. There is a variety *rotundifolia* which is not so well known. It forms a smaller tree but fruits quite as freely. *C. mollis* is another very beautiful Thorn from North America. In flowers and fruit it is very like *C. coccinea*, but differs by the hairy character of the leaves. *C. coccinioides* is one of the newer species that has affinities to *C. coccinea*; its fruits are darker coloured, but borne very freely.

The *Washington Thorn*, *C. cordata*, is easily distinguished from all others by its rather small leaves and late flowering period, the white flowers being at their best in July. The fruit is small, scarlet, ripens late, and often remains on the tree throughout winter. It grows 30ft. high and is a native of the Eastern United States. *C. punctata* is very distinct by reason of its large, prominently ribbed or veined leaves and large spotted fruits. The fruits of the type are deep red, $\frac{1}{2}$ in. to $\frac{3}{4}$ in. long, and dotted over with small brown spots. There is a variety *xanthocarpa* in which the fruits are yellow with brownish dots.

C. Azarolus, a native of the Orient, is a very remarkable Thorn, not so much by its white flowers as by its fruits. The fruits are about 1in. in diameter, apple-like, yellow, orange, red or white; fleshy, sweet and edible. Another Thorn with large edible fruits is *C. tanacetifolia*. This has very hairy leaves and shoots, short stiff branches, white flowers and yellow fruits 1in. in diameter which bear green, leaf-like bracts on the surface. It is a native of Asia Minor and Syria. In leaf *C. orientalis* is rather like *C. tanacetifolia*, but the leaves and fruits are smaller, the fruits also vary in colour from yellow to orange and red.

C. sanguinea, from Russia and Siberia, bears rather small, glossy, bright red fruits, and is a good kind to select. *C. prunifolia* is often regarded as a hybrid between *C. Crus-galli* and *C. macrantha*. It forms a bushy-headed tree



FRUITS OF THE COCKSPUR THORN, *CRATÆGUS CRUS-GALLI*.

have they bloomed so freely as they did in May and early June, or borne heavier crops of fruit. The country has rarely been more beautiful at Whitsuntide than it was in 1922, for every hedgerow and isolated Thorn bush was covered with flowers, whether it happened to be in a highly cultivated garden or a wilding on hillside or common. At the present time these same bushes are covered with red fruits.

Nor is it the common Hawthorn alone that has blossomed and fruited so profusely, for the same thing has happened with cultivated varieties and exotic species. The old theory of heavy crops of Hawthorn and Holly berries being sure signs of a hard winter is still credited in some quarters, but the theory cannot be substantiated by fact, for the flowering and fruiting of trees and shrubs is determined by the weather that has gone before, not by what is to come, and a hard and cold winter is just as likely to follow a poor as a good crop of fruit.

As a good deal of interest has been created in the *Crataegus* family during the last few months, it may be wise to direct attention to a few of

20ft. high, and bears white flowers and deep red fruits freely, but is perhaps most remarkable by reason of the rich autumnal tints of the foliage, which embrace many shades of red, yellow, orange and bronze. *C. mariantha* is an Eastern North American species which bears very attractive, glossy, crimson fruits. *C. Crus-galli*, the Cockspur Thorn, so called by reason of its long, strong spines, bears white flowers and crimson fruits; the leaves have attractive autumn colouring. *C. durobrivensis*,

one of the newer American Thorns, bears bright crimson fruits rather more than half an inch in diameter. *C. Carrièrei* should be in every collection on account of its late flowering and fruiting. The flowers are white, nearly an inch across and produced in flat heads 2ins. or more in diameter. The fruits are orange red, 3/4in. in diameter, and ripen in November. There are several Thorns with black fruits, such as *C. nigra*, *C. chlorosarca* and *C. Douglasii*, but their fruits are less attractive than those of other species.

C. Douglasii, however, is very beautiful in autumn by reason of the bright tints taken on by the foliage.

The Thorns are easily grown in any good garden soil. They should receive a little attention in the way of pruning while they are young in order to induce height instead of lateral growth, but it is not a good plan to remove large branches from old trees, for this may set up disease, resulting in the loss of a favourite specimen.

W. D.

A SELECTION OF BORDER CARNATIONS AND CLOVES

THE following list of varieties, which includes some of the latest introductions, comprises the best varieties in the different colour sections. All the sorts mentioned can be relied upon to give satisfaction for garden decoration, and almost all of them are suitable for exhibition purposes.

GRENADE is easily first among the scarlets. It is a brilliant colour and does not scald in the hottest sunshine. It is a large flower, sometimes attaining a diameter of 4ins., yet its petals are the right size for expanding in wet weather. It has a fine border habit.

VELDFIRE is another fine scarlet self, not quite as brilliant as Grenadier, and not as reliable in wet weather. At its best, however, it is a very fine variety with a sound calyx.

GLOW-WORM.—This is a real dwarf scarlet of perfect size for border work, very floriferous and the flowers carried on wiry stems. One year plants have had as many as 120 blooms at a time.

SCARLET CLOVE is one of the finest of the new Cloves. It is a colour that Mr. James Douglas has been working on for years, and he has at last succeeded in producing it with the true Clove habit. It is not a brilliant colour like Grenadier, but a pleasing shade of reddish coral. It has a very strong aroma.

FUJIVAMA is a deep red rather than scarlet. It sometimes shews white ticks in the colour. It is a good exhibition variety.

CRYSTAL CLOVE is a peerless white Clove of fine shape and habit and very fragrant.

WHITE CLOVE.—Of strong dwarf habit, this very powerfully scented Clove is ideal for border

work. If left undisturbed it makes a huge plant the second season, when its freedom of flowering will be a revelation. It is possibly the most highly perfumed Clove to date.

GOLDFLOCKS is a really fine apricot self for border cultivation. It is a very pleasing colour and the habit is grand.

BOOKHAM SALMON.—This is a very beautiful salmon pink, and although the flowers are very large, it has a splendid calyx. It is a fine variety of good constitution.

SALMON CLOVE.—Like the above, this variety changes to a lovely shade of salmon pink after opening. Sometimes, however, it opens without scent, but after a few hours develops a strong Clove fragrance. This is a peculiar characteristic.

STIRLING CASTLE and **MOONBEAM** are two of the best yellows of their type, and the vigorous



FANCY CARNATION STEERFORTH.



THE FRAGRANT KING OF CLOVES.

HARDY PLANTS TO REPLACE BEDDING

(Continued from page 526.)

THE great white silky cups, golden stamened, of *Romneya Coulteri* against the dark, rather greyish green foliage are very effective, but it is advisable to establish this plant near the foot of a sun-baked wall, otherwise it is not sufficiently reliable in cold seasons to merit a place in the garden immediately adjacent to the house.

Of shrubs more properly so described which may advantageously be employed, there are

are innocuous in colouring) and the inevitable *Madonna Lily* (*L. candidum*). The beautiful *speciosum* varieties and the even grander *auratum* are, of course, delightful anywhere, but they can be considered permanent denizens of few British gardens. Even where they succeed it is rarely possible to provide for them properly in the flower garden. They like their "heads" in sunlight and their "heels" in shade.

For autumn effect Michaelmas Daisies are

habit and sound calyx of *SUNSHINE* are two of its best points. The latter is a good variety for the border.

ROBIN GREY is a fine border variety of very robust habit. It is a lavender grey.

BOOKHAM BELLE is a lovely fancy, canary yellow with heavy markings of lavender grey and lighter stripes of soft apricot. It is a very large flower of perfect form and sound calyx and it is also a strong grower.

KING OF CLOVES is the best dark Clove yet produced. It is a glowing shade of deep purplish crimson. Besides having a very vigorous habit, the flower-stems are very rigid and the calyx is non-splitting.

MARGARET KEEP.—A dainty shade of blush pink with the old Clove scent very pronounced. One of the finest of the newer Cloves.

MARECHAL NILL.—An appropriately named variety, for the colouring of the well known Rose is practically reproduced in the Carnation. The large blooms are of fine substance.

STEERFORTH.—A fine flower of dainty colouring, a white ground edged and flecked with a deep shade of crimson. It has the Clove scent.

CORALLINA.—A delicate shade of rich coral pink which is particularly beautiful under artificial light. It is a flower of fine form and good habit.

CLARET CLOVE.—A crimson claret coloured Clove of very strong habit with a perfect calyx. It is very floriferous and powerfully fragrant.

KELSO is unique in colouring. In the young flowers it is a purple-grey on a golden red ground, afterwards changing to heliotrope on soft apricot. It is a perfectly formed flower and good for either exhibition or the border.

MELANIE is a magnificent apricot self of fine border habit.

PALADIN.—This is a beautiful fancy, a finely formed flower with an edge and pencillings of purple on a yellow ground. It is a good border variety.

PURPLE CLOVE.—This is the finest of its colour yet produced. It has strong habit and good border form. The perfume is very pronounced.

PEARL CLOVE.—A delicate shade of pearly lilac rose. It is a strongly scented variety, and the habit and constitution are quite good.

SIR BRUNETTO CLOVE is one of the best of the dark varieties. It is a rich deep maroon, at times almost black. It has a grand border habit, and the blooms are borne on strong, rigid stems.

BLUSH CLOVE is another delicately coloured variety with an exceptionally heavy perfume. It requires no staking as the flowers are carried on very strong, rigid stems, which stand erect above the foliage.

MRS. HAWKSBEET is a very beautiful fancy, lightly flecked and barred with bright rosy crimson on a pure white ground.

SIR DOUGLAS HAIG is another fancy of the best form. It is heavily marked with crimson maroon on a white ground. It has a splendid border habit.

LOYALTY is regarded by many as the finest orange apricot in existence. It is a fine variety for the border, having a strong habit, rigid stems and a good calyx.

In addition to the above the following can all be relied upon: *Alice Byron Stewart*, buff, edged and marked rose; *Centurion*, yellow with scarlet markings; *Cleopatra*, rose madder with light scarlet pencillings; *Ironsides*, buff, marked and suffused with deep rose; *Liberté*, rich yellow with heavy markings of maroon and crimson; *Linkman*, yellow with heavy scarlet markings; *Melton Prior*, one of the richest coloured fancies, yellow, heavily marked with bright scarlet; and *Pasquin*, yellow, edged and flushed with rosy lavender

NORMAN LAMBERT.



SNAPDRAGONS, CAMPANULAS AND GREY FOLIAGE PLANTS IN A PAVED GARDEN.

Lavender, Rosemary, some of the smaller-growing Veronicas and many species of Southernwood. Both tall and dwarf Lavenders are available. Of these latter probably the *Munstead* Variety is the most desirable. It may be used for edging beds in a similar manner to *Box* if such edging is required. *Veronica Autumn Glory* is an effective semi-prostrate sort, but *V. glaucophyllum*, *pinguifolia*, *cerulea glaucescens* and even the quaint heath-like *V. loganoides* have their value. Of Southernwoods (*Artemisia*) the nomenclature in nurseries is not too reliable, but in addition to the true Southernwood, *Artemisia Abrotanum*, *AA. arborescens*, *Stellariana* and *margaritaceum* are some of those valuable for silvery foliage. The herbaceous *A. lactiflora* is also quite a useful plant with its creamy flower spikes.

Lilies assuredly produce a fine display when in blossom, but they need using with caution for two reasons. In the first place, their glory is comparatively short-lived; and, secondly, choice things such as these should not be used with too prodigal a hand. They shew to best advantage when contrasted with flowers of lesser pedigree. Many Lilies are too difficult in colouring for close association with other plants; some, on the other hand, are both charming in themselves and excellent as neighbours. Such are *Lilium testaceum*, an admirable and easy-doing hybrid Lily with flowers of pinkish buff; *L. Henryi*, like a stalwart soft yellow *L. speciosum*; *L. Martagon album* (or even *Martagon* itself, for its flowers, if not brilliant

invaluable. Some of the taller varieties may be included in the permanent planting, but it helps the general effect greatly if plants of the *Amellus* section and other dwarf varieties are grown in a reserve garden and lifted in autumn to fill up blank spaces. The related *Erigerons* are also useful, and some of them lift quite well if they are kept carefully staked as growth proceeds.

Some of the smaller Torch Lilies (*Kniphofia*) are very free-flowering and attractive, and their erect spires and rather grassy foliage give needed diversity, but care must be taken to select suitably coloured varieties. There are so many sorts nowadays, of which any one nurseryman stocks but a small proportion, that the best advice we can offer is to see the plants in flower and select them. Those with soft yellow and coral tones are quite innocuous.

The glowing blood crimson of the Cambridge Scarlet variety of the False Bergamot, *Monarda didyma*, is valuable where it flourishes. It likes a fairly light sweet loam. Of *Rudbeckias* the old *speciosa* (*Newmanni*) is specially valuable as giving a fine mass of colour, but the tall and handsome-foliaged *R. maxima* has more individuality and charm. *Rudbeckias* are particularly valuable for rather damp corners; they will not tolerate drought. That dwarf and brilliant *Helenium*, *H. pumilum*, and its variety *magnificum* are also unhappy in droughty conditions, but good cultivation and a fair amount of humus will usually suffice to keep them "happy."

There are many spring-flowering plants which may be included, mostly with pleasing foliage, to form a background to summer-flowering things. *Aubrietia*, *Alyssum*, *Phlox subulata* (for light, dry soils) and some of the Mossy Saxifrages may be taken as typical. Of the last mentioned *Wallacei*, *trifurcata* *ceratophylla* and all the true *moschata* forms, such as *S. m.*

atropurpurea and *S. m. laxa*; the last-named plant is identical with the true *S. Rhei*. *S. Rhei* of gardens, however, is almost invariably a rather pretty pink mossy hybrid.

No permanent planting can give quite the solid blaze of colour produced by "bedding out" and keep it up. Anyone whose taste calls for such effects must be content to use bedding plants.

LATE AUTUMN FLOWERS AT VINCENT SQUARE

THE dense fog which enveloped London and the suburbs overnight and throughout the early hours of November 14, resulted in a small Show at Vincent Square, Westminster, and the attendance was smaller than of late. But those who braved the weather were amply compensated by the quality of the exhibits in the hall. In view of the annual show of the special society later in the week, Chrysanthemums formed an important section. Mr. H. J. Jones excelled himself with a superb group and incidentally won his seventh gold medal of the year and, what no doubt pleased him even more, received the Special Congratulations of the Council for his great display. Baron Bruno Schröder, whose name is so closely associated with Orchids of great merit, sent an attractive group of Chrysanthemums of the highly decorative *Caprice du Printemps* type. Messrs Keith Luxford and Co. also had a valuable display of Chrysanthemums, but as these and the others are to remain for the special show, we reserve our comments.

Although not great in numbers, Orchids were of particularly high quality. Baron Bruno Schröder had a unique group of *Calanthe Harrisii*. It was a very large collection, arranged with great skill and taste and each plant was a perfect specimen, bearing tall spikes of milk-white flowers very slightly flushed with rosy purple. A gold medal would not have been too high an award for this superb group, but Baron Schröder received a silver-gilt Flora medal, while the coveted silver-gilt Lindley medal for the exceptional skill he has shown in cultivation, goes to Mr. Shill, the Orchid grower.

Sir Jeremiah Colman sent a small but choice collection of *Cattleyas* and *Brasso-Lelio-Cattleyas*. *Cattleya corulea* was daintily charming and *Brasso-Lelio-Cattleya Antoinette* was of gorgeous colouring.

Carnations were particularly bright and good. The vivid colours of *Lord Lambourne* and *Red Ensign* in the group by Messrs. Stuart Low and Co., who also massed their new *Eileen Low* and *White Pearl*, was welcome on the raw, foggy day. The deep rose pink *Mary Allwood* diffused pleasing fragrance even under the unpromising conditions. Messrs. Allwood Bros. had several vases of the fancy Carnations, which are fast increasing in popularity, and, while these do not make the colour display of the selfs, they are very fascinating. The free-flowering *Marian Willson*, *Benora* and *Eastern Maid* were prominent examples. In Mr. C. Engelmann's collection we noted in *Arnos Grove* a very uncommon fancy of red and mauve-violet shading.

There was a fresh trade exhibitor in Mr. E. H. Ganser who, we understand, intends regularly to contribute large collections, principally of greenhouse plants. His first exhibit was a very meritorious one of *Primula obconica* of an excellent strain; floriferous plants of *Cyclamen* and greenhouse Ferns. Among the last named were some beautiful plants of the billowy *Nephrolepis exaltata Marshalli compacta* which appears to be too

delicate for everyday use and yet is a splendid room plant.

Some vases of splendid Violets were shown from the Hayden Violet Grounds, Blandford. These



APPLE JOY BELLS.

were *Princess of Wales*, exceptionally robust and fragrant.

An uncommon but intensely interesting exhibit was the large collection of water-colour paintings of U.S.A. native plants on behalf of Miss Mary E. Eaton of the New York Botanic Garden. These were dainty, but most faithful, representations of specimens of a great number of plants.

Fruit was represented by collections of Apples and Pears by Sir Chas. Nall-Cain and Messrs. J. Cheal and Sons, and Cider Apples and Pears by Messrs. H. P. Bulmer and Co. The private collection was the largest and was characterised by the brilliant colour. The outstanding dessert Apples were *Paroquet*, *Baumann's Red Reinette*, *The Houblon* and *Orange Pippin* and among the many culinary fruits the useful *Mère de Ménage* and *Peasgood's Nonsuch* were especially fine. The Pears included *Conference*, *Pitmaston Duchess* and *Beurré Bachelier*. Messrs. Cheal's Apples were also of high quality, such sorts as *Christmas Pearmain*, *Adam's Pearmain*, *Baxted Favourite*, *Cox's Orange Pippin* and *Morris Green* were perfect examples of dessert Apples.

The Cider Apples were in boxes containing a couple of dozen or so fruits and several of the varieties were very attractive. *Kingston Black*, *Foxwhelp* and *Dymock Red*, for instance, were very attractive in their high colour, while *White Norman* and the small yellow fruits of *Eggleton Styre* were of uncommon appearance. The Perry Pears were *Aylton Red*, *Blakeney Red* and *Butt*.

NEW AND RARE PLANTS.

Carnation Eileen Low.—Already the value of this novelty has been realised by the show-attending public and we have on several recent occasions commented upon its grace and beauty. It is regarded by the raisers as being the most perfect of all the salmon pink varieties. From the plants we should judge it to be a "good doer" and very free-flowering. The flowers are large and of good form. Award of merit to Messrs. Stuart Low and Co.

Carnation Master Michael Stoop.—This is a rather large flowered perpetual Carnation of very uncommon colouring which may best be described as a rich rose-cerise fading to old rose with a suggestion of salmon pink. It appears to be a free-flowering variety, the blooms are compact and under better conditions it is probably fragrant. Award of merit to Mr. G. Carpenter.

Carnation The Hon. Neta Weir.—This may be described as being a deeper coloured *Enchantress Supreme* with all the good qualities of that popular variety. Shewn by Messrs. Stuart Low and Co.

Chrysanthemum Miss M. A. Hunter.—A well formed single variety of rather more than medium size. It has several rows of broad, yellow petals which are lightly stippled with bronze towards their tips, which are slightly recurved. Award of merit to Mr. G. Carpenter.

Chrysanthemum Oriole.—This is another very decorative single-flowered variety of large size. The narrow, rolled petals stand out straight, giving somewhat the same uncommon effect as seen in *Rayonante*. The colour is a good yellow and we anticipate a future demand as a variety for decorative purposes. Award of merit to Messrs. Keith Luxford and Co.

Chrysanthemum Radiant.—This handsome single-flowered Chrysanthemum which, for some unaccountable reason did not find favour with the Floral Committee, might well be termed a much larger *Sandown Brilliance*, for it possesses in an increased degree the glorious colour and substance of that fine variety. Shewn by Mr. G. Carpenter.

Brasso-Cattleya Alma.—A strikingly beautiful hybrid more nearly approximating the *Brassovola* than a *Cattleya*. It is a very large flower and the broad sepals and petals are the colour of very old ivory, while the beautifully fringed lip is a delicate pale rose pink, freely veined with golden yellow. Award of merit to Messrs. Charlesworth and Co.

Brasso-Cattleya Wm. Pitt.—The *Cattleya* parentage is very evident in the rich mauve sepals and petals which colour is continued in the large, fringed lip where it is relieved by yellow flushing in the throat, making it a very showy flower. Award of merit to Mr. W. Pitt.

Cattleya Our Prince.—A wonderfully beautiful and uncommon flower of rose and gold colours. The broad sepals and petals are glistening golden yellow, while the slightly constricted lip is old rose colour, very freely lined with deep golden yellow. Award of merit to Messrs. Flory and Black.

Cypripedium Gwen Dixon.—A very dainty warm greenhouse Lady's Slipper Orchid of *C. Spicerianum* type. The dorsal sepal is pure white while the remainder of the flower is of delicate greenish-yellow colour. Award of merit to Mr. L. Dixon.

Cypripedium Linda.—This is a larger and more rounded bloom of the Dreadnought or Bull Dog type and though a trifle smaller than these is still a large flower, but carries the characteristic somewhat squat habit and rounded shape. It is of greenish-yellow colour with pure white on the

upper half of the large dorsal sepal. Award of merit to Messrs. Cowans, Limited.

NEW FRUIT.

Apple Joy Bells.—Although its origin is unknown the general appearance of this seedling Apple suggests Bismarck and Emperor Alexander, though it is of superior quality to either. It is a juicy, sweet, aromatic November Apple, but larger than is generally preferred for the table. In shape it is much like Bismarck and very brightly coloured on quite three parts of its surface, the remainder is a pleasant yellow. Award of merit to Mr. Will Taylor.

THE CHRYSANTHEMUM SOCIETY'S SHOW

NEVER before have such magnificent exhibition Chrysanthemums been seen as at the R.H.S. Hall, Vincent Square, on November 16 and 17, when the National Chrysanthemum Society held its annual show. Not only was there an appreciable increase in the size of the blooms, but the quality was decidedly the highest ever seen in this or probably any other country. The season seems to have been particularly favourable to the production of beautiful floral colouring, and in practically all the many blooms in the hall the clarity and depth of colour were most noteworthy.

While it is a tribute to the great skill of the chief cultivators and, to a certain extent, the raisers of Chrysanthemums, this increase in size is not altogether an unmixed blessing. As ever, it brings a rather serious problem in its train. Already the exhibition board has proved too small fully to display the manifold charms of these gargantuan blooms, and on the present occasion

it was still more inadequate. It might well be said that the remedy is to dispense with boards altogether and to display the blooms more naturally and gracefully in vases. This would be the counsel of perfection, but there are decided objections to its adoption for all the classes. It is a difficult matter to transport sufficient exhibition blooms on long stems to set up a collection in the Holmes' Memorial Class, for instance. We are fully aware that this was done in the William Wells' Memorial Class, which requires the same number of similar blooms, but the greater number of exhibits in the former class indicates the truth of our statement, and it applies most to those exhibitors who live some distance away.

The increased size of blooms is not the only problem before the Society. Its increasing success



GOLDEN SINGLE CHRYSANTHEMUM ORIOLE.

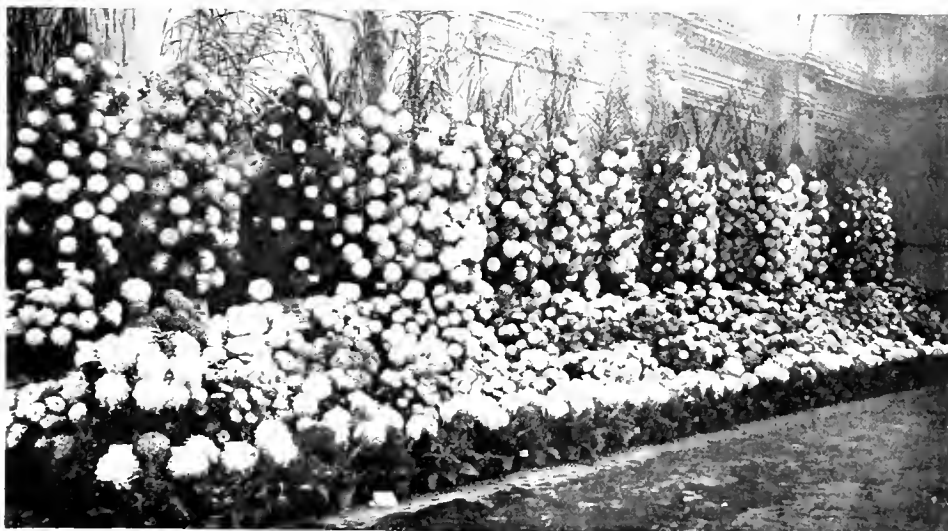
requires even more serious consideration. Last November, and again this year, it was abundantly borne upon the executive that in every way the Vincent Square hall is too small.

Great as is the improvement in the large Japanese blooms, which many thought years ago had reached their apogee, it was the single-flowered varieties that shewed the most marked improvement. This elegant and useful class is as yet only in its infancy, and we confidently anticipate that the day is not far distant when we shall see quite distinct as well as improved types.

The greatest effect was seen in the large-flowered singles, and the George Mouro Cup was won by Mr. H. Woolman with beautiful examples of such sorts as Edith Dimond, Mars, Esme Waters, Sandown Radiance, Molly Godfrey and Reg. Godfrey.

The trade growers supported the show in very generous fashion. Mr. H. J. Jones freshened his enormous group of the previous Tuesday to such good purpose that he was awarded a Special Large Gold Medal and the compliments of the Committee for making the most comprehensive and representative collection ever seen at the Society's shows, and also the Clay Gold Medal for the best trade group in the show. To date Mr. Jones has won ten gold medals in fourteen weeks, which is a record not easily to be broken. It was quite a stupendous exhibit, and made a feast of floral colour that will be long remembered by all who saw it. At the back there were tall stands chiefly filled with large exhibition blooms of high quality. Below were ranged large baskets of decorative sized Japanese and single varieties, with occasional baskets of Pompons and Anemone-flowered varieties.

On the opposite side of the hall Messrs. W. Wells and Co. had a beautiful collection which won a gold medal. Many of the exhibition



MR. H. J. JONES'S MAGNIFICENT EXHIBIT

Japanese varieties would have done credit to a first prize exhibit, and such as Majestic, Louisa Pockett, Mrs. G. Drabble, Mrs. George Monro, jun. and Wm. Rigby were shown in quantity.

Another gold medal collection was contributed by Messrs. Keith Luxford and Co., and in addition to many exhibition Japanese, Decorative and Single varieties, it included a fascinating vase of such dainty little Pompons as Golden West, Snowdrop, Mary Pickford and Baby Doll. The vases of the graceful Anemone-flowered varieties also attracted attention. Thora, a rosy mauve which has a straw-coloured centre, was particularly admired.

Silver-gilt medals were awarded to Mr. H. Woolman and Mr. W. Yandall for graceful collections. In the latter the baskets of Bronze Molly, Josephine Bernier, Mavis and Mr. W. Smith were very successful; while Mr. Woolman had well grown examples of the Japanese varieties Ida, Miss A. E. Roope and Mrs. J. T. Henry. Collections were also shown by Messrs. J. W. Cole and Son, Messrs. W. J. Godfrey and Son and Baron Schröder.

NEW CHRYSANTHEMUMS.

The Floral Committee of the N.C.S. found forty-eight novelties awaiting judgment. Nearly all of them were of merit and the following were selected for award.

Absolute.—In the opinion of several specialists this is the finest single in cultivation. It is of medium size, perfect form and most delightful shade of amber with a suggestion of orange, and a golden zone. First class certificate to the Bridgewater Nurseries Company.

Crimson Perfection.—A very handsome Japanese variety of rich velvety crimson colour and useful decorative size. First class certificate to Mr. C. J. Henderson.

Floria.—A valuable pink single Chrysanthemum of medium size and good form. There is a small white zone to the flowers. First class certificate to the Bridgewater Nurseries Company.

Hilda Shoemith.—A well formed single with broad, blunt, silvery pink florets slightly drooping at the tips. First class certificate to Mr. Jas. Shoemith.

Mrs. R. Harris.—A bright yellow single Chrysanthemum of round form. The broad florets recurve slightly at the tips. First class certificate to Mr. Walter Jinks.

Nero.—A medium sized market Japanese variety of flaming crimson colour. The broad, slightly drooping florets give the blooms a graceful appearance. First class certificate to Mr. H. Shoemith.

November Cheer.—This is a rose pink market Japanese variety of distinct cup-shaped habit. It appears to be a bloom that will travel exceedingly well. First class certificate to Messrs. W. Wells and Co.

Poulton's Climax.—An exhibition Japanese variety of large size and very graceful habit. The long white curled florets droop and, since there are plenty of them, give an elegant appearance. First class certificate to Mr. H. Poulton.

Radiant. This is the gloriously beautiful single variety that failed to receive recognition at the previous R.H.S. meeting. First class certificate to Mr. G. Carpenter.

Sunset.—This is a very attractive single-flowered Chrysanthemum of Mensa size and bright amber colouring and though not so regular in shape as Mensa, it is an elegant flower. First class certificate to the Bridgewater Nurseries Company.

Wellington Wack. Although the florets are narrow and stiff, this is a graceful market Japanese variety of uncommon pale primrose colouring. First class certificate to Mr. E. Jones.

THE PLANNING OF A GARDEN ORCHARD

SITUATION.—First we will discuss the situation, although I am afraid we are not always able to choose for ourselves. It should afford, if possible, some protection from the north and east and also from the local prevailing winds. Damp and low-lying situations should be avoided, as should dry and really sandy soils. If natural protection is lacking, hedges and windbreaks should be planted, and if fruit of large size or of a delicate constitution is to be grown, then a wall would be a great help and even a necessity in some cases. Wooden fences are not to be recommended, as they are not profitable and harbour a lot of insect pests, especially if they are of the rustic type with the bark left on. Trees on a slope facing south-east or south receive the full force of the sun's direct rays in the early morning and if a frost should occur the rapid thawing will often destroy some of the blossoms. Therefore it is not wise to plant an orchard on a slope of this description.

Preparation.—The type of soil must be considered, and I would say at the beginning that the most generally suitable is a medium loam of moderate depth resting on a well drained subsoil. If it were grass and there were no immediate hurry, then the best plan would be to dig up the grass in August or September and let it die on the land, choosing a spell of very dry and hot weather if possible. If wet prevailed, then the grass would in all probability take root and it would have to be dug all over again. If only quite a small area was being planted and if time was pressing, then the sods could be carted off and heaped to rot down. This would waste no time and the thorough digging could then be commenced straight away. To kill any pests, such as wire-worms, which infest grass roots, a dressing of some good soil insecticide would be advisable. Gasonite is one which is reliable, and should be spread on the top after the shallow digging at the rate of about 50lb. to 1 rood. When the grass has died down then the thorough digging must be commenced. Good stable manure should be applied at the rate of five tons to the rood if the soil is in poor condition. However, if the land underneath the trees is to be kept open and unplanted, then manuring would be inadvisable for the present. If Strawberries, vegetable crops or flowers are to be grown, then apply manure as above. The land should preferably be trenched and the subsoil should be broken to a spade's depth. Care should be taken, however, not to bring any sour subsoil up to the surface. It is very necessary when planting a new orchard to remember that the soil should be in excellent heart, be well drained, and be kept open with fibrous matter, such as long straw manure, dead leaves or ashes. These are essential points for the best growth and heaviest yields.

Windbreaks.—Anyone who has grown fruit on a rather exposed situation will know the damage caused by an unexpected high wind, especially if the trees are standards. It certainly pays to protect such an exposed garden with a windbreak of some description. Poplar, Hawthorn and Privet are very useful and generally planted, but why not grow a profitable wind screen? Plums, such as Monarch or Czar, I have seen planted thickly enough to afford a considerable amount of shelter, and such tall-growing Pears as Catillac and Fertility can be used and will be found serviceable and profitable. Pear and Apple trees for this purpose are best bought as "feathered" trees (i.e., unpruned when one year old), planted about 12ft. apart, and allowed to grow up naturally and without training them to any special shape. Plums and Damsons should be planted closer

than this, the usual distance being 8ft. to 10ft. If a hedge to prevent pilfering has to be formed, then I should suggest planting Hawthorn and interplanting with Czar Plums 12ft. apart. Here you have a close and profitable boundary and windbreak combined. No wind screen should be planted on the south side, because it would hide the sun from the crops growing within a distance of 10ft., and poor results would be obtained therefrom. Although these breaks seem unnecessary to some gardeners, I am confident that an increased yield of sound fruit would result from their use.

Marking Out.—When the ground is ready the exact position of each tree should be marked with a stake. These positions are easily marked out by means of an ordinary chain with pieces of tape tied on to it at distances apart equal to the correct distances at which your trees are to be planted. Get your base line first and by means of a home-made square or a surveyor's instrument the various positions can be marked off, drawing the chain along as you want it. Any stakes that are out of alignment when finished can easily be corrected by sighting along each row.

Planting.—Now as to the actual planting. This may be done from the middle of October to March, but the sooner they are planted after they have dropped their leaves the better. The ground will be more easily worked and the trees will be able to form new root fibres before winter sets in. The method of planting is most important, because growth is checked on transplanting and everything must be done to give them a good start in their new quarters. The first important point is the careful treatment of the trees, especially the roots when actually out of the ground. They must not be exposed to frost or drying winds, and if on arrival, the roots are found to be shrivelled up, plunge them into a tub of water for twenty-four hours. Also any damaged or thick tap roots should be cut off with a sharp knife, taking care to make the cut from the centre of the tree and with its face downwards. Thus new lateral roots will be encouraged.

Each hole should be dug out, leaving liberal space for the roots of the trees without cramping. For trees worked on the dwarfing stock the depth of planting should be so as just to cover the junction of the scion and stock, otherwise an unsightly protuberance will result, and when it attains the size of a football it will not reflect much credit on its owner! Trees on the free-growing stock should be planted at the same depth as they were in the nursery rows, which can be seen by the soil mark on the stem. When the hole has been dug, then drive in your stake. This is much better than putting it in after the tree has been planted and damaging the roots and, incidentally, damaging the tree by a misjudged blow.

Carefully place the tree in the hole and spread out the roots flatly and evenly distributed. Now, when the alignment is correct, shovel in a *little* of the best soil and stamp down with your heel. Then a little more soil and tread firm again, and keep on in small quantities until the hole is filled. This is the secret of good planting, and ensures a good start for the tree in the following spring. It is useless to fill in the hole all at once and tread down the top. A drying of several of the roots will result and in some cases the ultimate death of the tree. Leave the earth round the tree slightly higher than the surrounding ground to allow for gradual consolidation, or otherwise a hollow will result which will make a harmful pit for water. Also leave the ground loose and not just as it is after trampling down. SEE-JEE.

CORRESPONDENCE

"BEAUTIFUL FLOWERS AND HOW TO GROW THEM."

IN reference to the review of this book in your issue dated the 11th inst., suffice it to say that it is thirteen years since it passed through the hands of either my brother, Walter P. Wright or myself.—HORACE J. WRIGHT.

AN EARLY NARCISSUS.

I BELIEVE the stock of that fine Narcissus Henrietta is in the hands of Messrs. Cartwright and Goodwin of Kidderminster, but it was raised by Mr. W. F. M. Copeland. It is one of the rather small class of all yellow *Incomparabilis*. Its perianth is not quite "up to the knocker" from a florist's standpoint, but it has the making of a fine garden plant, being large, tall, robust, a fast increaser, very floriferous and extremely early. This extract from a letter which I recently received from "C. and G." in answer to one from me enquiring how early? speaks for itself: "In 1921 it was the first variety to flower. We have not got the exact date, but it was completely over long before the R.H.S. Daffodil Show, while this year it was the only bloom out for that show that had not been forced on. On March 18, 1921, Henrietta was past its best. We have this record." These early varieties help to prolong the Daffodil season out of doors at one end, while such a one as Steadfast does the same thing at the other. Then come the Poets; and then, after *recurvus* and the old double white, the end. I am very glad there is an end. Not even Roses and Carnations are loved any the more for being always with us.—JOSEPH JACOB.

THE TWELVE BEST SHRUBS.

THE interest in the selection of the twelve best flowering shrubs seems to be increasing week by week, and no wonder, as no more fascinating subject could have been introduced to readers of THE GARDEN. As was to be expected, the various lists show widely divergent choices, because some beautiful shrubs which succeed well in favoured localities are anything but satisfactory in others. Individual taste is also a very important factor in choosing flowers of any sort, and the great variety both in habit of growth and form and colour of flower among shrubs allows an extra wide latitude in this instance. It is a pity that Roses and Rhododendrons were permitted to enter the arena, not because they are unworthy, but because of their sterling worth, as we think they

are each worthy to form a class by themselves and could without difficulty provide a choice dozen in either group. Another feature which should be taken into consideration, is the hardiness of the shrubs, as some were mentioned in several of the lists which it would be foolishness to attempt to grow in Scotland, except in the highly favoured localities on the west coast. In making my selection I have kept these points in view and also have purposely chosen shrubs of moderate growth, which can be grown in even the smallest garden, consequently some choice large-growing things



ALL YELLOW, NARCISSUS HENRIETTA.

such as Laburnums, Lilacs, etc., have necessarily been omitted. The list also includes such species as will provide bloom for as long a period as possible. My choice is as follows:—*Forsythia suspensa*, *Daphne Mezereum*, *Andromeda floribunda*, *Spiraea arifolia*, *Ribes sanguinea*, *Escallonia langleyensis*, *Philadelphus Lemoinei*, *Berberis stenophylla*, *Olearia Haastii*, *Weigela Eva Rathke*, *Ceanothus Gloire de Versailles*, *Buddleia variabilis Veitchiana*.—ALBYN.

THE COLOUR OF ROSA MOYESII.

THE note from Mr. A. B. Bruce on "the colour of *Rosa Moyesii*," in your issue of November 11, filled me with surprise. The writer states that "'brownish-red' and 'blood-red' are misdescriptions suggesting the spurious variety mentioned." He also states that he has "seen at shows a plant with all the characters of *Moyesii* except that the colour of the flower was a *hideous* combination

of brown, red and yellow!" I have seen *R. Moyesii* both at the Oxford Botanic Garden and the Botanic Garden, Cambridge, as well as at the shows, and this Rose is quite accurately described as brownish-red (or even blood-red, if the blood has become dry), but the great characteristic of *Moyesii* is that there is *not a trace of yellow* shading on either stamens or petals and certainly no trace of old rose pink—a rich maroon might convey a fair idea of the colour or a tawny deep rich Indian red or even tawny port.—H. H. WARNER.

ERIGERON MUCRONATUS.

"CAMBRICA" makes a curious mistake in describing this little Daisy flower (see page 560). To begin with, this is its proper name, though I believe a certain number of nurseries sent it out as *Vittadinia australis*, endemic to New Zealand, which I have raised from seed and is utterly different from *E. mucronatus*, which is a native of Mexico (see Nicholson). Secondly, the colour of the opening of the flowers is exactly reversed—they *open* white, "tip-tinted," certainly, with pink, like our common Daisy, but die off to almost a crimson, as you will see from the flowers enclosed (in every stage). It is truly an almost everlasting flowerer and is best and neatest if clipped over closely in spring, just before making its new growth. An excellent plant for an edging among stones.—WESTERN WIGHT.

[*Erigeron mucronatus* appears to be identical with *Vittadinia triloba* (not *V. australis*), but as sent out from nurseries the two plants are too often identical. The flowers sent were nothing but seed heads on arrival.—ED.]

BULBS IN OUT-OF-THE-WAY CORNERS.

THERE are nooks and corners in many gardens, sometimes at the foot of walls or beneath overhanging trees, where the advent of spring brings no change and fails to mark with her light fingers of beauty "the days and weeks with bud and blossom"; where, indeed, little attempt has ever been made to brighten them. Not infrequently it is because some of these corners *are* out of the way and do not appear within sight of windows of the home that they are neglected. One such garden with which we are acquainted has come under the transforming influence of lowly treasures. Some of them, like the Winter Aconites (*Eranthis hyemalis*) shew their golden blossoms while the year is young, followed hard on by Snowdrops and bright blue *Scilla sibirica* and *Chionodoxa sardensis*. A little colony of that gem among Anemones, *nemorosa* var. *Robinsoniana*, never fails with its sheeny sky blue flowers that open wide their petals in the spring sunshine. If planted near to, or in conjunction with, groups of Narcissi, the effect is most marked. Time and again one notices bare spaces in the vicinity of shrubs that—if a summer use cannot be made of them—may at least by planting small bulbs be rendered attractive in spring. Besides those mentioned, Muscaris, Crocuses and *Fritillaria Meleagris* are serviceable. None of these plants is fastidious. They involve little trouble once planting has been done: there is no necessity to lift them very often, and they can well be left to colonise without much sign of deterioration. In a corner in our own garden, nestling up to a wall, that early Crocus Cloth of Gold has now for many years shewn its bright yellow face practically simultaneously with Scillas, and at the time the bulbs have been left to themselves. It is these out-of-the-way, little regarded positions in a garden that can be made real beauty spots in the morning of the year if only we seek to make them so by planting what cannot fail to bring beauty and pleasure in their train—flowers that blossom early.—L. W.

PLANTING THE ROSE GARDEN

THE Rose is said to be the Queen of Flowers. She has certainly an imperious way with her which lends some colour to her sovereignty! The best site in the garden is, in too many cases, hardly good enough for her. So was it in our case. We picked the best site we could, however, remembering that poor soil may be improved but that light and air are more difficult to control.

I should, perhaps, make it clear that we were new-comers to an old garden when we decided that a Rose garden, however small, must be added to the existing garden scheme. The site ultimately decided upon was sheltered from the north by a screen of conifers, interplanted effectively enough with Lombardy Poplars and Silver Birches. This screen would have been better a little further off, but it provides shelter from biting winds and also adds greatly to the privacy of the garden, which, but for it, would be overlooked.

On east, south and west there was nothing of sufficient size to obscure light or to cause draughts; nothing, at all events, of such value that it could not be sacrificed. The soil itself was as poor as could be; part of it, however, was under turf, which was incorporated face downwards all over the garden as trenching progressed. The larger part, however, had once been planted thinly with shrubs, some never first class, some quite good kinds, but all quite overgrown and useless. The ground was simply alive with twitch. From late spring until early autumn unremitting war was waged on this and other weeds, but the work of destruction was complete, for the following season (1922) none of this insidious grass showed up and even annual weeds were scarcer here than elsewhere in the garden. I believe that the great thing in dealing with twitch, and with other weeds with underground "wires" for that matter, is to preserve the root mats as entire as possible. Once get it broken up into bits an inch or two long it is almost beyond the wit of man to eradicate it in a single season.

No doubt this very necessary fallowing helped to enrich the ground, but a dressing of cow-manure was added to the lower levels with the view of improving its texture. There was some doubt about the fertilising value of the only cow-dung procurable, however, and it was accordingly supplemented with really good stable manure. The ground was trenched two good spits deep and the subsoil broken below. The manure was incorporated into the bottom spit and the chopped up turf between the top and bottom spits. Finely ground bones, not bone-meal, were also dusted between the spits as the work proceeded. The land, though poor, seemed sweet, but its lime content on such a soil would be small, so, without troubling to test it, a dressing of ground limestone at the rate of about $\frac{1}{2}$ lb. to the square yard was spread on the surface and afterwards lightly forked in. A dressing twice as heavy is quite usual, but, personally, I think it is more satisfactory and less wasteful, at any rate on light land, to apply smaller dressings at more frequent intervals.

All this work was completed early in September, and by the beginning of November the ground, having been well firmed when trenching took place, was ready for the trees. The paths were all marked out and levelling pegs put in, but the turf was not laid until after the Rose trees were planted. The object of this was to prevent the beds being trodden off the newly laid turf before it had a chance to get established. I have since come to the conclusion, however, that where turf is to be laid it would be better to get this done in early autumn and leave it to establish itself,

allowing the usual pins, or jins, of "overhang" to permit of trimming and leaving this trimming until planting is finished. There was rather a lot of re-levelling to do before the turf could be laid and though in the end an entirely satisfactory result was obtained, I am convinced it was not economical.

The Roses were planted in the way so often described in *THE GARDEN*. A hole amply large enough was made and the roots spread out somewhat. No attempt, however, was made to make the fibrous roots run all ways from the main tap-root. They were encouraged to lie as nearly as possible in the same relative direction as they had done when growing in the nursery. The ground was made quite solid as the work proceeded, but the surface was forked up and left moderately rough for the winter. In spring Mauve Queen Violas were planted as a double edging round the beds. These were a great success, and this season I purpose planting them in the centres of the beds also to form a continuous undergrowth. Except for a fortnight or so about July when they are cut over they produce a display of beautiful colour all summer through. They are particularly valuable when Rose blossom is rather scarce.

For my own part I think an elaborate Rose garden with complicated beds a sad mistake. The appearance of grass is preferable to that of paving in a Rose garden. In our own case we introduced paving down the centres of the main paths to give comfortable access in early morning when the dew is on the sward or after rain and also to save the damage to the turf which is likely to be caused by the gardener's barrow.

For the twenty beds in the garden the following varieties were employed, one sort in each bed: General McArthur, rich crimson, very fragrant; Lady Hillingdon, golden buff, tea-scented; Mrs. Herbert Stevens, white; Ophelia, flesh colour; Mme. A. Chatenay, pink; Prince de Bulgarie, soft pink tinted yellow; Pharisæer, silvery rose; Mrs. A. R. Waddell, coppery tones; Mrs. Wemyss Quin, bright yellow; Château de Clos Vougeot, black-crimson; Mrs. George Shawyer, pale rose; George C. Waud, red; Molly Sharman Crawford, ivory white; Mme. Segond-Weber, salmon rose; Lady Pirrie, coppery salmon; Joseph Hill, salmon pink; Mme. Ravary, soft yellow; La Tosca, flesh colour; Jonkheer J. L. Moek, deep carmine rose; and Isobel, orange scarlet. One keeps learning by experience, and I have found Joseph Hill and La Tosca too tall compared with the others and Mme. Ravary too dwarf. An abundance of soft colours is very necessary to bring into harmony some of the daring shades now in favour.

S. A. N.

PARIS INTERNATIONAL AUTUMN EXHIBITION

THIS Exhibition opened on October 27 and closed on November 5th. It was held in the Palmarium and adjoining greenhouses in the Jardin d'Acclimatation, Paris. Unfortunately the night previous to the opening a sudden frost took place, with the result that the Begonias and many of the Chrysanthemums were greatly disfigured.

The Committee of Patronage was composed of many eminent names in horticulture in allied and neutral countries and on the jury were members from Belgium, Spain, Switzerland, Poland, Italy and England, besides France. The Show was very tastefully arranged, a piece of artificial water,

crossed by a rustic bridge, formed an attractive centre, around which were grouped several of the most important exhibits. At the far end of the Palmarium, leading to the adjoining hall, on each side of the steps were two large masses of rock which also helped to give an artistic effect to the Show.

On one side of the Palmarium was a long greenhouse or annexe filled with the fruit exhibits and on the opposite side was a series of small greenhouses, each containing some special class of exhibits, such as Orchids, Japanese dwarf trees, etc. In the grounds close by was another large greenhouse devoted to the vegetable classes, a grand display by various exhibitors of every conceivable vegetable in season. Chrysanthemums, of course, occupied the principal place and the Grand Prix d'Honneur was awarded to Messrs. Vilmorin Andrieux et Cie for an enormous display of trained and specimen plants arranged in several sections. Most of the plants were of decorative value only, being covered with medium-sized blooms and were principally French varieties. M. G. Truffaut put up a remarkable display, consisting of five huge columns of blooms, one variety in each, and a series of circular groups, on a soft green moss ground, of large exhibition blooms. His finest flowers were Undaunted, Captain Fox, Mrs. G. Drabble, Majestic, Mrs. R. C. Pulling, Paul Oudot, Miss Edith Cavell and other well known English varieties. Close by was the very meritorious group staged by M. Paul Féron. On a square turf lawn, decorated with autumn foliage, were some large vases with one in the centre standing on a blue porcelain pedestal. They were filled with colossal blooms of Mrs. R. C. Pulling, Edith Cavell, Undaunted, Daily Mail, Captain Fox, etc., also a few singles in front.

M. Leloup-Grimoux staged a most important group in two parts, divided by the path leading to the main body of the Show. A large number of well known English varieties, and some French made up this exhibitor's very fine display. The Maison Féron staged singles, and other prominent exhibitors in Chrysanthemum classes were Messrs. Oudot, Liveque et fils, Lochot, Mme. Martin (new seedling), Souchet-Laurent, R. Viallette (a nice collection of Japs), Ragot, Laveau and G. Morin.

The Floral Committee awarded a large number of certificates for new Chrysanthemums, but these are hardly likely to interest the general reader.

M. Aug. Nonin showed Roses and Camellias. In the former Joseph Guy, Mme. Abel Chatenay, Mme. Butterfly, Lady Hillingdon, Orleans Rose, etc., were presented in nice form. Messrs. Leveque and Honoré Difresne also staged Roses. Carnations were not plentiful, but some interesting lots came from Messrs. Leveque, Davy and Vacherot. Messrs. Cayeux and Leclere put up an attractive mixed group of Dahlias, Chrysanthemums and Michaelmas Daisies. Some good exhibits, as usual, came from the well known tuberous Begonia specialists, Messrs. Vallerand and Billard. Cyclamen artistically arranged along the banks of the artificial water came from M. Ragot. Mme. Aubert-Maille had a grand lot of the same, with other plants. Floral art was well represented by the famous Paris house of Lachaume, and also Ed. Debrie, whose artistic displays were much admired. M. G. Weiss staged Japanese dwarf trees and in the little side greenhouses we noted the exhibits of fruit by M. Lepère, M. Lambert, Pestel and others.

A large side greenhouse contained the leading fruit classes, some of them nearly roof, long, on tables, the chief exhibitor being the well known firm of M. M. Nombrot-Bruneau, Croux et fils and Moser et fils, Apples and Pears being in the majority. Vegetables were shown in a separate house in great variety by Messrs. Vilmorin Andrieux et Cie, M. George Truffaut and M. Davy.

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THE ARRANGEMENT OF FLOWERING SHRUBS

PRESENT-DAY tendencies in gardening are all towards making greater use of flowering and fruiting shrubs with trees small enough to be grouped successfully with them. This is understandable enough for many shrubs are extraordinarily beautiful when in blossom, others are exceedingly attractive in autumn, while others, again, brighten the landscape in winter-time when herbaceous borders present only a stubble—and an unattractive greyish stubble at that. Though their beauty be amply sufficient to justify and account for the increasing popularity of shrubs, it is more than doubtful whether it furnishes the only or, indeed, the principal reason for their rapid progression in public favour. The fact is that the well arranged shrubbery, representing, as it does, the maximum of beauty with a minimum of labour, exactly meets the need of a period of world-wide impoverishment. A series of articles upon different families of shrubs and trees has, doubtless, proved helpful to those desirous of selecting the species and varieties best suited to their purpose. To-day it may be well to consider how to dispose our material—living material be it noted—to produce adequate effects at different seasons.

The best soil for the generality of shrubs is unquestionably a light, practically lime-free sandy loam. It can, with very little trouble or expense, be made to suit all classes. Fairly well rotted leaf-mould, spent hot-bed manure and turf loam will fit it for Rhododendrons and other American plants and the addition of mortar rubble or ground limestone will render it suitable for trees and shrubs needing lime.

Fig. 1 on page 600 shows an arrangement of shrubs to a curving entrance drive. Such a drive is often necessary owing to a discrepancy between the

level of the roadway and that of the house. The opening shown on the right indicates a connexion to some of the more open parts of the pleasure grounds, perhaps to a more extensive shrub garden. This opening is suggested as a turf sweep, but it might be desirable to take a dry paved path, a gravelled walk, or even a subsidiary cartway through such a gap. Actual planting in such cases must largely depend upon individual tastes and preferences, but the scheme shown will suggest suitable proportioning for the different groups. It will be noted that Holly, the practically smooth-foliaged laurel-leaved variety to wit, is suggested to give solid background on occasion. If a fair amount of land may be devoted to such backing, Common Spruce (*Picea excelsa*) or, preferably, the Oriental Spruce (*P. orientalis*) may be utilised instead. The tree commonly employed, *Cupressus Lawsoniana*, is less suitable, being dull and commonplace of foliage, yet in some of its better forms it will serve. Trees which ultimately attain any height should not be used anywhere in the immediate vicinity of the house. One might think it unnecessary to mention this, but

experience shews that such unsuitable planting is an almost everyday occurrence.

To turn to the actual shrub planting suggested, objection may be taken to the use of Rock Roses. The fleeting character of their blossoms may be pointed out as well as their want of hardiness in many inland counties. The short-lived character of their individual flowers granted, however, it must be pointed out that the bushes remain effective over a very considerable period. The second objection is more serious. The only species absolutely hardy in some inland counties is *Cistus lanifolius*, though *C. cypricus* (usually sold as *ladaniferus*) and *purpureus* are moderately so. Their places in the plan might be occupied by *Cydonia Maulei* or Japanese Maples and *Cytisus nigricans Carlieri* respectively. Where no species is mentioned (*e.g.*, Barberries, Brooms) it is intended to plant a variety, but care must be taken only to associate together sorts which suit both as regards habit and colouring. Azaleas are suggested to be used fairly freely. Mollis seedlings are best for such a purpose, and may be had in a wonderful range of colouring from flame, through

salmon pinks, to soft yellow. Not only are they gorgeous when in blossom, but they are among the best and most certain shrubs for autumn foliage colour. The planting as shown might be improved by including, here and there, odd plants of *Forsythia* and *Hamamelis mollis* to give colour in the dark days. *Escallonia macrantha* is an admirable and, on well drained ground, a hardy shrub which has beautiful foliage and is almost always in flower.

In Fig. 2 suitable planting for a comparatively short straight drive is indicated. It has often been stated that shrubs are less effective in straight-edged borders than in those of curving



THE RHODODENDRON WALK AT ALDENHAM.

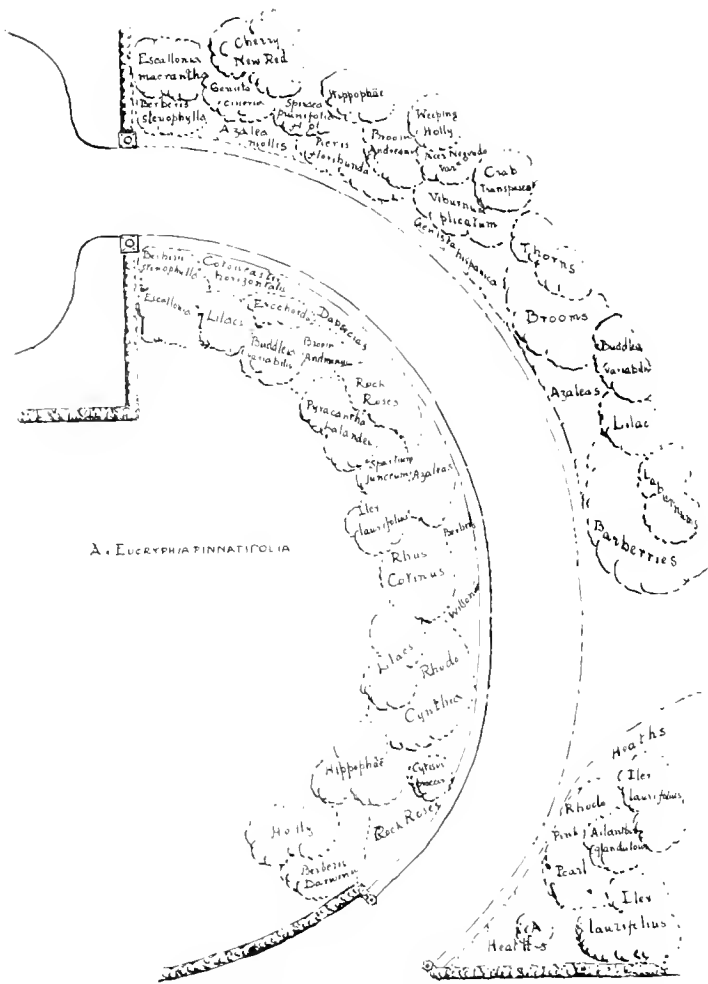


FIG. 1.—SHRUBBERY PLANTING TO A CURVED DRIVE.

outline. That there is some truth in the contention few will deny; none the less, given sufficient spacing properly to see the borders, shrubs may be used in such borders with admirable effect. There are strips of turf on either hand, which should, if possible, slope gently up to the shrubs. The Thorns suggested might be *Crataegus Oxycantha* var. *Single Scarlet*, which, if less lasting than Paul's Double Crimson, is more beautiful and has the additional substantial merit of fruiting abundantly in autumn. One or other of the large-fruited American species might be substituted if desired. The *Spiraeas* suggested would be *S. Lindleyana* and either *S. arguta* or *S. prunifolia* fl. pl., with *S. Bumalda* Anthony Waterer (rosy crimson) in front. The *Skimmias* have very desirable evergreen foliage, and are admirable for lasting berry effects. It is necessary to include at least one male plant in each group.

The *Azaleas* will again be mollis hybrids in

and, when in flower, the sheet of gold is unrivalled. It sometimes gets cut with frost pretty severely inland, but it is very seldom that it fails to throw up again from the centre of the plant. The most attractive *Kalmia* is, unquestionably, the Mountain Laurel, *K. latifolia*, but *KK. angustifolia* and *glauca* are interesting and useful for the front of the group. The American Spindle Tree, *Euonymus latifolius*, is a really handsome fruiting shrub, and also gives valuable autumn colour in favourable seasons. Though all *Euonymuses* bear fruits more or less, there are distinctly male and

female forms, and one of the former should be included in each group.

If the group of *Lilacs* is confined to one variety, probably *Charles X* would be as satisfactory as any, but a plant of the white *Marie Legraye* might be included without looking odd. *Berberis Thunbergii* is quietly beautiful when its pinkish buff flowers expand, but is chiefly noteworthy as being the most gorgeous of many brilliant shrubs when in autumn dress. To match its salmon and copper tints in any other autumn foliage one has to turn to extra well coloured current season's growths of the self-clinging Virginia Creeper, *Vitis inconstans* (syn. *Ampelopsis Veitchii*). The other fairly dwarf *Berberis* shewn might include *B. Wilsonae* (or *B. subcaulilata*) in front and *B. polyantha* behind, both admirable for their fruits, or some of the *Mahonia*

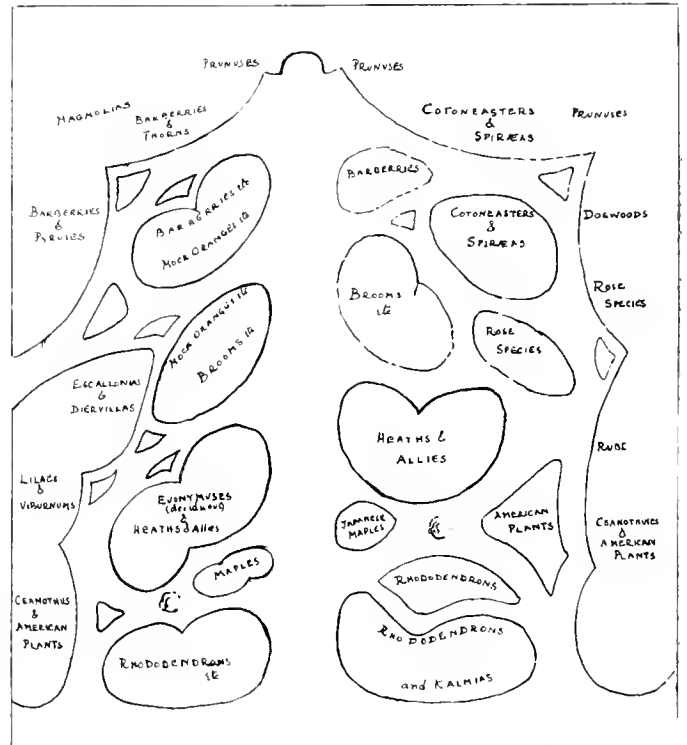


FIG. 3.—ILLUSTRATES PLANTING "BY FAMILIES."

Much of the distaste which is felt for shrub gardens in some quarters is due to spotty "higgledy-piggledy" planting.

group might be substituted. They are attractive in flower, foliage and fruits, though these last are less showy in their violet dress than the coral and crimson berries of the purely fruiting species.

The most useful of the variabilis *Buddleias* is probably the variety *magnifica*. *Philadelphus grandiflorus* is one of the best of the *Mock Oranges*.

It flowers when the forms of *coronarius* are over. Its total lack of scent may, or may not, be considered a disadvantage. It is rather surprising that *Veronica salicifolia* has not been mentioned in the correspondence ament the "twelve best shrubs." When seen under favourable conditions it always draws favourable comment, and it is certainly entitled to be considered the handsomest of even "theoretically" hardy shrubby *Speedwells*. It is probably harder than *Laurel*. The deepest possible red form of *Ribes sanguineum* should be procured. Such forms are often listed under fancy names.

The hybrid *Escallonia*, *E. langleyensis*, a cross between the white and deciduous

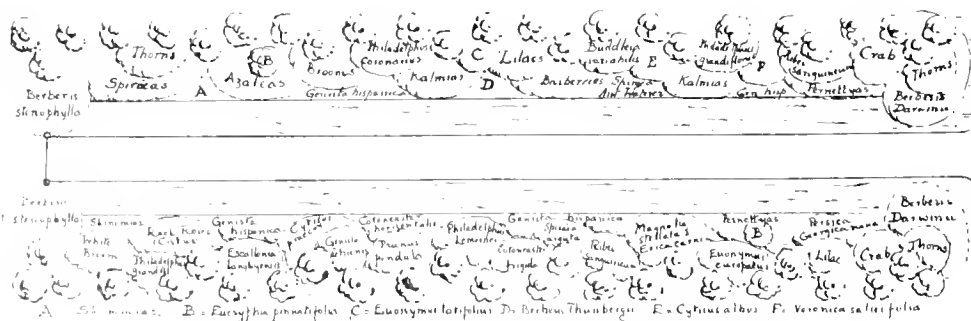


FIG. 2.—PLANTING AND LAY-OUT FOR A STRAIGHT DRIVE.

E. Philippiana and the glorious *E. macrantha* has some of the good points of both parents. It has the glossy evergreen foliage of *macrantha*, albeit immensely reduced in size, and the arching growth of *E. Philippiana*. The colour of the blossoms is a vivid salmony carmine very near to that of *E. macrantha*. For the benefit of those who neither know *E. langleyensis* nor *E. Philippiana*, it may be well to state that both have somewhat the habit of growth of *Berberis stenophylla*. *Cytisus præcox*, with its soft cream-of-sulphur coloured blossoms needs no description. The Mount Etna Broom, *Genista ætensis*, is not so much grown as it should be. It attains in time the stature of a small tree and is very handsome when in flower. The golden yellow blossoms are produced in July. *Prunus pendula* is an admirable weeping tree with multitudes of single cup-shaped rose flowers. It bears

extraordinary names in nursery catalogues sometimes. *Cerasus sinensis rosea pendula* may be taken as typical of such!

Philadelphia Lemoinei is here intended to cover any of Lemoinei's dwarf hybrids which may specially appeal to the planter. All are beautiful. *Cotoneaster frigida* is another species which seems undecided whether to be a shrub or a tree. It is attractive when in flower and very handsome when laden with its brilliant fruits, which in localities not too heavily stocked with birds remain until the new foliage breaks in spring. Birds will not take them unless very hard driven. *Magnolia stellata* is shewn underplanted with *Erica carnea*. Though very beautiful when in blossom, this *Magnolia* is rather sparse of habit and unattractive when out of flower. That dwarf Peach, *Prunus nana georgica*, is too seldom seen in gardens. For a short while

before the flowers expand the innumerable buds are a delightful and brilliant rose colour, quite surpassing those of *Prunus floribunda*. The trees for background might well be Scots Pines.

Fig. 2 suggests a layout for a pond-side shrub garden, and suggests how species of the different families may be grouped together, so that their several beauties may readily be compared. Such an arrangement has the added advantages of minimising work, since, as a rule, allied species like similar soils and general treatment, and require similar pruning. Best of all, such a grouping of species makes the whole garden interesting, no matter how extensive it may be, since each section visited is quite different from the last. In a subsequent issue it is proposed to take a section of the garden shewn and suggest detailed planting.

LATEST DEVELOPMENTS IN THE CHRYSANTHEMUM

THE development of the Chrysanthemum during the last three decades has been immense, but there are many who have not hesitated to express the opinion that a period of stagnation has arrived. No doubt there was a momentary check when the development of almost every practicable shade of colour in the huge exhibition mops had been completed. Since then, however, the raising of decorative sorts has gone on apace, and every year a number of good "market" varieties is certificated. There has, indeed, been a danger that "market variety" and "decorative" would become synonymous, but there are signs that this in future will not be the case. A market

flower must be stout of petal and compact, and must withstand rough usage without shedding. For home decoration, however, a more fragile flower answers perfectly, and, certainly, light-petalled varieties are likely to be more graceful and more easily arranged as cut flowers. The new sulphur yellow variety Wellington Wack, which is illustrated herewith, is interesting for the rigidity with which the rather narrow petals are held and the consequent spacing between them. The petals themselves are not nearly so fine as in varieties of the spidery petalled section (e.g., *Rayonnante*), yet the variety is so distinct as to be worth considering a typical variety of a new class. Shall we call it Golliwog-headed?

The other picture below shews a new "eyed" variety with several rows of petals. It might be said roughly to correspond to the peony-flowered section in Dahlias, but the perfectly clear eye and the good and neat habit of growth are, of course, points of advantage which this particular 'Mum has over the Dahlias. These "semi-single" forms will probably be useful to market men, for they should stand packing and travel better than the real singles. The variety illustrated rejoices in the name Alice Jinks, and is amaranth purple in colour.

There are great diversities of opinion as to what constitutes the most desirable type of single. There are those who consider *Mensa* the type of



THE SULPHUR YELLOW WELLINGTON WACK.



ALICE JINKS HAS SEVERAL ROWS OF AMARANTH PETALS

the ideal single. Evenly arranged *smoothly recurring* florets are their ideal. They may be taken to be a triumph of restful beauty. There are others—and the writer is one—who prefer the varieties of the Pagram family with very stiff but distinctly saucer-shaped flowers. There is less repose but more life in such a flower. Others, again, there are who, so that the eye be clear and shapely, most admire a variety with rather shaggy petals—such an one, in short, as Hilda Shoebridge, also one of this season's novelties and also illustrated. There is yet a fourth type which finds some admirers. The varieties which constitute it



CHRYSANTHEMUM HILDA SHOEBRIDGE, SOFT PINK.

might almost be called single incurved. Owing to the distinct inward rolling of the petals the flowers never appear very large, though if the petals are straightened out some of them are in fact, of very respectable size. Mary Richardson may be taken as typical of this style of flower. All these four types—and many varieties which will not exactly fit into any of them—are beautiful enough and useful. It is worth while calling attention to the diversity, however, if only to shew that there are more types of Chrysanthemum blossom than we are apt at first sight to think. The new anemone-flowered singles are also exceedingly beautiful alike for cut flower and for decoration in pots.

The popularity of the Chrysanthemum as judged by the recent show of the National Society is once again on the increase, and it is quite evident that the Society's executive will have to look about for a more commodious building than the Royal Horticultural Hall in which to house their exhibition.

NOTES ON SHRUBS for FAVOURED GARDENS

OF all the many species of *Acacia* that can be grown in favoured English gardens, none is more beautiful than the common one, *Baileyana*. Even if it never flowered it would be worth growing for its blue leaves, and its familiar "Mimosa" flower makes a yellow cloud in early spring in many Cornish gardens. In a quite cold house here one can have it in flower by Christmas. I have not yet seen *A. dealbata* as splendid in Cornwall as it is at Abbotsbury in Dorset, where it makes a huge tree. Like *Baileyana* this seems to require a good deal of shelter from wind if it is to flower well out of doors, but *A. longifolia*, though brittle, can stand quite a lot of wind.

Anopterns is rather disappointing, not nearly so fine as *Clethra arborea*, which it resembles in flower.

Buddleia madagascariensis, with orange plumes shaped like those of *B. variabilis*, grows with great vigour here, but I have not yet seen it profuse in flower, as on the Riviera.

The orange-scarlet bottle-brush flowers of *Beaufortia* can be grown here, but in their different season the *Callistemons* do the bottle-brush effect much better. The deep red *Callistemons* and the pale pink one with gold-dusted anthers, are magnificent.

There seems to be a better form of *Cytisus fragrans* than the one commonly grown in greenhouses up-country: this

and *C. stenopetalus*, and the slender white *C. nilitera*, are always worthy of a good place. There is, too, another white *Cytisus*, *C. proliferus*, which is a treasure for a wild garden: it makes a fast-growing tree with silvered leaves and with white flowers from winter to spring.

Clematis indivisa lobata, familiar in greenhouses up-country, is a wonderful sight in these parts in April, smothered in great white flower bunches. I feel sure, too, that when better forms of *Clematis Armandi* than those now commonly obtainable in commerce have been tried in gardens here, they will prove rivals or almost rivals to *indivisa*.

Why is not *Correa Harrisii* better known? Of all the *Correas* this is the most beautiful, more so even than the scarlet *cardinalis*. Its rose-red bells are borne for six months, from November onwards, and I have seen a large bush against a wall so streaming with them as to obscure the leaves. The plant is delightful for a pot indoors, tidy and perfect in habit. This is, I think, the best of the pink *Correas*, better than *ventricosa*. *Cardinalis*

is vivid and most beautiful, with the darkest green leaves as a foil for its flowers, but it seems to be a less hearty grower than *Harrisii* or the others. *C. alba* makes a nice greyish leaved plant for a shrubbery, and the ordinary *C. virens* is delightful in its quiet way. It has been hanging out its greenish white bells for some weeks already, and will go on doing so till May. It looks very well, I notice, in company with the tall green-flowered *Hellebore*.

Of the *Diosmas* that grow here in the open the most beautiful is certainly *D. uniflora*. This has solitary white flowers, rather like a *Flax*, over a round mounded bush. *D. gracilis*, with small white flowers, and *capitata*, with heads of mauve pink, are also pleasant shrubs to see, but the delight of *gracilis*, even more than the others, lies in the wonderfully aromatic scent of its bruised leaves.

Of the *Escallonias*, *macrantha* is, of course, the one most commonly grown here for shelter: it makes a splendid hedge 12ft. high and many feet through, and even now is plumed all over with its rose-red flowers shining in the glow of a November evening. From such short experience as I have had, however, I am inclined to think *E. exoniensis* makes an even more rapid screen than *macrantha* and deserves to be more widely used. Do other readers corroborate this, and do they find, what I believe to be the case, that seedlings of *E. macrantha* make better plants than cuttings will ever do? *E. floribunda* is delightful now, with a profusion of white flower heads, which are a favourite haunt of belated butterflies. *E. langleyensis*, that treasure worthy of any garden, is well known everywhere, but Edinburgh is quite as good and Donard Seedling very well worth a place.

Of *Erica melanthera* I have written before in these columns: the vigorous form of it, grown out of doors in some gardens here is certainly one of the noblest shrubs I have ever seen, far surpassing even *E. australis* at its best. It makes a great puff of mauve colour of rare waxy quality and in favourable conditions I have seen it over 12ft. high. In the correspondence recently about the "Twelve Best Shrubs," I was glad to see *Leptospermum Chapmanni* mentioned by at least one contributor. Yes, I quite agree. Anyone who has seen a big bush of this in full flower will never forget it and will always want to grow it.

Leonotis Leonurus grows well out of doors here, and is specially valuable for its late flowering; its tawny orange colour looks fine against grey wall or rock. I remember seeing beautiful photographs of Mr. William Robinson's of this plant, the Lion's Tail, growing in pots for the decoration of stone steps late in the year; I wonder that it is not more often used in this way, since it is easily propagated by cuttings and quickly reaches flowering size.

There are at least three sorts of *Metrosideros*, *tomentosa*, *robusta* and *diffusa*, which would be among the chief treasures of any garden. Unhappily they are too tender to be of use for any but the most favoured gardens out of doors. *Robusta*, I imagine, is the hardiest, and this flowers freely on the mainland in panicles of the splendid bottle-brush red. Like *tomentosa* it will stand any amount of wind; *tomentosa* does not suffer even from full exposure to the fiercest Atlantic gales. If only this were hardier it would certainly be regarded as one of the most valuable trees we have.

Z., Cornwall.

(To be concluded.)

TREES FOR THE WATERSIDE AND SWAMPY GROUND

IN these notes it is intended to draw attention to certain trees which thrive best by the waterside and in moist soils generally, rather than those suitable for widely different soils and positions. The selection of trees for planting in moist ground and swampy areas in ornamental planting contribute in no small degree to the beauty of the landscape. From the economic point of view there is often considerable opportunity for planting low-lying ground which is useless for farm or general forestry. The trees suitable for planting under these conditions chiefly belong to three families, the Alders, the Poplars and the Willows.

THE ALDERS.

The species of *Alnus* are widely distributed in four continents, Europe, Asia, Africa and America, generally fringing the banks of rivers and streams or growing in swamps and marshes. In some ways it seems remarkable that we are able to grow side by side in Britain with our native *Alnus glutinosa*, the Himalayan Alder (*A. nitida*), the Oregon Alder (*A. oregona*), the Caucasian Alder (*A. subcordata*) and the Japanese Alder (*A. japonica*).

Readily raised from seeds the Alders are fast-growing trees in wet situations. In the case of the varieties of *A. glutinosa* and *A. incana*, these can be propagated by layering, grafting on the Common Alder, or by cuttings inserted on a sheltered border during November.

A. glutinosa, our British Alder, is best known in gardens as the species from which several very ornamental trees originated. These include

var. *aurea*, a form with golden-yellow leaves; var. *imperialis* (*asplenifolia*), an attractive tree with deeply lobed leaves; var. *laciniata*, also with lobed leaves, but not so deeply cut as the last named; var. *quercifolia*, leaves resembling those of our Common Oak, and var. *rubrinervia*, a form with red leaf stalks and veins.

A. incana, the speckled or grey Alder, is a widely distributed tree in the North Temperate Zone. With a smooth greyish bark and a grey-green undersurface of the leaves, it is a more attractive tree than the Common Alder. There are a number of varieties, the best and most distinct being var. *aurea*, yellow twigs and leaves; var. *incisa* (syns. *laciniata*, *pinnatifida*), a beautiful cut-leaved Alder for the lake side; var. *monstrosa*, having fasciated branches and fruits, novel and interesting; var. *pendula*, a very handsome tree with weeping branches; var. *ramulis coccineis*, a very distinct tree when leafless in winter and spring, with red young twigs and catkins.

A. elliptica, the hybrid Alder; there is a fine specimen of this fast-growing tree by the lake side at Kew, about 75ft. high. It is a natural hybrid between *A. cordifolia* and *A. glutinosa*, found in Corsica. The cultivation of this tree for its timber is worth considering, for it is well known that, for the soles of clogs, Alder wood has no equal.

A. cordifolia, the Italian Alder, though a south European tree, is perfectly hardy and of fine, upright growth. An attractive specimen tree in front of the Economic Museum No. 1 at Kew on the bank of the pond, exceeds 70ft. in height.

A. nitida, the Himalayan Alder, I should be inclined to place first among Alder species as an ornamental tree, though in time it may be rivalled by two new ones from China, *A. cr-mastogyne* and *A. lanata*. Native trees reach 100ft. in height and several trees at Kew raised from seeds in 1882 exceed 50ft. The leaves are 4ins. to 6ins. long and half as wide.

If space permits *A. firma*, *oregona*, *orientalis*, *subcordata*, *molis* and *japonica* are all worthy of attention in addition to those already described.

THE WILLOWS.

The value of Willows for waterside planting is too well known to need extolling to readers of THE GARDEN. Among such a large number of species, varieties and hybrids it will be possible to draw attention only to a few of the best.

The most beautiful of all is undoubtedly Napoleon's Weeping Willow, *Salix babylonica*, a wide-spreading tree of great beauty. *S. Salomon* is a hybrid between *S. alba* and *S. babylonica*, the branchlets are not so drooping as the last named, but it is a very graceful and noble looking tree. *S. vitellina*, the Golden Willow, is a handsome tree, abundantly furnished with twigs which in sunshine, shew brilliant yellow when leafless in winter. *S. alba*, the White Willow, is a beautiful native tree, fringing the banks of our rivers in many places. The variety *argentea* (syn. *S. regalis*) has leaves of a shining silvery hue which are distinctly ornamental. *S. corulea*, the Cricket Bat Willow, is a fast-growing upright tree and a



THE DECIDUOUS CYPRESS, TAXODIUM DISTICHUM



A GOLDEN WEEPING WILLOW, SALIX VITELLINA PENDULA

most valuable timber tree to plant in wet ground. The name "cœrulea," or the Blue Willow, is given because, seen at a distance, the tree has a blue-green appearance, due to the blue-grey undersides of the leaves. *S. fragilis*, the Crack Willow, distinguished by the readiness with which the twigs crack, forms a large wide-spreading, bushy-headed tree. The Bay-leaved Willow, *S. pentandra*, is one of the most distinct and ornamental of our native Willows. More often a bush than a small tree, it can be readily pruned to grow into an attractive tree, 30ft. to 40ft. or even 50ft. in height. Large for a Willow—hence the name "Bay-leaved"—the rich green leaves are from 2ins. to 4½ins. long and half as wide.

THE DECIDUOUS CYPRESS.

Taxodium distichum is one of the most distinct and attractive trees we have for the waterside. At Syon House, Middlesex, a place famed for its large specimen trees, there are several *Taxodiums* by the side of the lake over roof-t. Here they produce the curious woody protuberances or "knees, from the roots above the ground, which we read of their possessing in the native swamps of

the southern United States. The attractive features of the tree are its tall pyramidal habit and leathery foliage, light green in summer, changing to rich brown before falling in autumn.

THE COMMON ELDER

Sambucus nigra is usually relegated to out-of-the-way neglected spots because it has a habit of springing up, wherever it can get root-hold, through birds spreading the seeds. A well grown tree of the Elder, however, with a clean trunk of 8ft. or oft., and some 20ft. to 25ft. in height, is a distinctly attractive flowering tree by the waterside about mid-summer.

THE SITKA SPRUCE

Picea sitchensis is one of the best evergreen conifers for wet ground, both as an isolated tree for ornamental purposes and closely planted as a commercial timber tree. In Scotland there are trees over roof-t. in height. Several years ago Mr. William Robinson was loud in his praises of this Spruce which, in moist ground, was making splendid growth with him at Gravetye, Sussex. A. O.

MICHAELMAS DAISIES—II

THE Editor has very kindly granted my request, so I am off again. I would never have ventured to ask for another turn, only I feel that it is not sufficiently realised what a splendid autumn flower the Michaelmas Daisy has become. There are shapes, habits and colours galore to be found

among its many species and hybrids. One or another gives us three months of flowers. The bunch of Belgian Queen, The Queen, Ringdove and some late bits of Climax that I brought into the house on Armistice Day speaks equally eloquently of the hardiness of the race and the long period of its usefulness. Since then I have

seen the splendid show of the *Chrysanthemum* Society in the R.H.S. Hall at Vincent Square. I had to rub my eyes as I stood before Jones' mammoth exhibit of beautiful blooms of almost every type the *Chrysanthemum* can give us, to make sure that I was not in some corner of an unearthly Paradise. I had to perform the same rite before the "vegetable marvels" of patient care and industry that filled the long lines of show boxes. I saw the abomination of disbudding in the swollen heads of my old friends the ancient Pompons. It was all very wonderful, but never, even for the smallest fraction of time that human ingenuity can measure, did I feel inclined to desert or to be dissatisfied with my Michaelmas Daisies at home. Of course I should be sorry to be without any Dahlias, and I gladly own that early-flowering *Chrysanthemums* have their uses, but neither the one nor the other are to me quite like Michaelmas Daisies. My first article was almost entirely confined to notes about varieties in my favourite section, the Novi-Belgii. I concluded

by mentioning two very beautiful ones of the cordifolius section, Little Bo-Peep and elegans. Oh! these other sections! Botanists are perhaps necessary evils, and I do try to think of them with kindly feelings, but when I picture the enjoyment they seem to get out of such a family as that of these perennial *Asters* and compare it with the slough of despair that they are to myself, I do what the tale avers Bishop Magee of Peterborough did when a waiter upset the sauce over his coat, I ask some layman to make an appropriate remark. I go a step further than Bailey's *Cyclopaedia*, which says of all these species that they are "botanically confused"; they are, I fear, horticulturally mixed too. Such being the case, the best way out of the difficulty is to mention the source from whence the plants came that I am going to bring before my readers.

Of all the many smaller fry in my collection none was more admired than diffusus *Bianca* (Wells of Merstham and H. J. Jones). If horizontalis is a synonym of diffusus, this example bears the idea out. More than one visitor described it as a 4ft. high Cedar of Lebanon made out of a small-leaved and daisy-flowered *Michaelmas Daisy*. The branches laden with innumerable white flowers come off from the central stem at right angles and so set up the resemblance. Without elbow-room it would be nothing. Hence it has occurred to me that a clump of three to five would make a capital and uncommon isolated bed on grass. Goldfinch (Beckett) and Star Shower (Amos Perry) to some extent feature *Bianca*, but they are not nearly so important-looking and are, I see, placed in the *ericoides* section, which means they are slighter in build and have smaller flowers. The true companion of *Bianca* is probably the Hon. Vicary Gibbs, with the pure white flowers turned into a decided lavender. It was, I regret to say, one of the varieties which did not do as well as they might have done, so I can only say it will surprise me if it is not very nearly a second *Bianca*. To revert again to Bo-Peep, my favourite of the feathery-flowered cordifolius type, I would mention *Diana* as a second string if Bo-Peep cannot be had, for I cannot find it in the newest lists which have just come to hand.

Decorator and Delight (both Perry) are two good ones of the *ericoides* section, and compacta alba (Jones) is my favourite among the vinaceous section. It now only remains for me to mention a few odd varieties which commend themselves for particular idiosyncrasies. For a cannon ball of bloom like the well known St. Egwin we have an excellent representative in the fine pale pink Namur (Barr) and one of my own seedlings, Redbrook, a pretty shade of mauve. They are not my fancy at all, but ever since a gardening friend came and picked out the last named as the one he liked the best, I feel bound to mention them. They do make good blobs of bloom. *Cattleya* (Jones) is a semi-double of great charm. Everyone, including myself, gives this soft rosy pink a pat on the back. Roddy (Wells) has, as far as my experience goes, one dreadful drawback. It suffers from spinal curvature, and, unless every inch of the main stem is supported, over it goes. Its individual flowers are so pretty and delicate-looking with their almost white halo round the central yellow boss and their soft rosy petals that it is well worth while taking pains with it in order to use the little side branches for cutting.

R. E. Hay, which came to me from another source, appears to be the same thing. Bruges (Jones) is almost a "cannon-ball." Its pale lavender flowers are so many and so big that you just have to notice it. Many of the individual blooms are a good 2½ins. in diameter, but the yellow centres are sadly disturbed by so many of the disc florets becoming dissatisfied with their lot and



A CEDAR-TREE TYPE OF MICHAELMAS DAISY OF WHICH BIANCA IS A FINE EXAMPLE

half-heartedly apeing the dress of those which rightly compose the ray. My last variety (or species?) to mention is a very late daisy-flowered one that came to me under the name of *ericoides* var. *diffusus* (J. C. House). It might almost be described like the one that Mr. Bowles in his book "My Garden in Autumn" heard described as an *Asparagus* plant with lots of white Daisies stuck all over it. It is very light-looking, and so is very handy for cutting, more particularly because it is so late to flower. Here only *Tradescantia* is behind it. At the time of writing (Novem-

ber 20) there is not one flower open. This leads me to ask the question, How do Michaelmas Daisies fare if the plants are lifted with a good ball of roots and then potted and placed in a cold house in the same way as *Chrysanthemums*? I have been told that some such proceeding is the secret of some of the splendid displays that greet us at shows, and I have recently read about lifting in private gardens. Can anyone give us the A B C of how it is done? By analogy it looks a very simple thing to do, but one never knows. JOSEPH JACOB.

Rutland where the plant grows freely in the ordinary loam, which is naturally limy, as I have never seen it grow anywhere else. There is a bold edging of it all round the carriage drive, in full sun. This is exceptional and anyway I like the plant best smuggling among big grey rocks. Stevenage. CLARENC ELLIOTT.

THE USE OF NURSE PLANTS

MOST practical gardeners know full well how certain plants dislike isolation and under some conditions positively refuse to prosper until given suitable companionship. *Gentiana verna* might be given as an example of one of these, and I have known patient amateur gardeners fail for years to satisfy this charming species until, by accident or design, the plants became more or less grown-over by some other lowly plant, when they immediately did satisfactorily.

The explanation why such plants, perhaps the majority, flourish better with companionship is doubtless more or less directly connected with moisture supply. Soil that is covered, being less liable to suffer from rapid evaporation, is maintained in a more equable condition than that which is fully exposed to the direct rays of the sun and sweeping winds. Habit, or what one might even call temperament, is also a factor to be reckoned with sometimes, some plants appearing to sulk from sheer loneliness.

For several years I have made a regular practice of using nurse plants in all cases where their presence seemed desirable, and with most satisfactory results. With such things as Heaths, for example, which are always apt to suffer during their first summer in our hot shaley loam, a partial smothering with some suitable annual sown all over the patch will not only prevent many a plant from succumbing, but actually encourage growth. Moreover, the nurse plant, if chosen with discretion, will often give beauty to a spot which is usually anything but pleasing to look upon during the first season or two.

Among the most suitable annuals for companionship newly planted Heaths, more especially on dry banks where a sheltering growth is most essential, one might mention the *Collinsias*, the large-flowered blue and white, purple and white or pure white being of suitable habit and stature as well as extremely pretty. The Candytufts, especially the lilac variety, are also admirable for such use. *Mignonette* can also be employed for this purpose, and for smaller-growing things than Heaths the dwarf annual *Alyssum*, called, I believe, *Lilac Queen*, is first-rate. But I need hardly say that there is an infinite choice of adaptable annuals for employing in this way—easy culture, with fitting height, habit and colour being the chief desiderata.

Considerably more discretion must, of course, be exercised in selecting companion plants (not necessarily annuals) for the smaller *Gentians*, *Soldanellas* and such like, for with these latter one must not use anything whose colour would be liable to detract from that of the plants we are endeavouring to succour. In our own garden we have no difficulty in choosing company for any of the smaller alpinæ we wish to treat in this manner, for a little white Herb Robert *Cranesbill*, smaller and more refined in all its parts than the native species, grows freely everywhere, and nothing could suit better the purpose in view. Failing that, one could employ the *Violet Cress* (*Ionopsidium acaule*), *Mentha Requieni*, *Androsace lactiflora*, *Veronica filifolia*, *Tunica saxifraga*,

A CHARMING ALPINE

THAT rarest and most beautiful of the Navelworts, *Omphalodes Luciliæ*, has a great reputation as a difficult plant, and certainly when I first tried to grow it, many years ago, it did not shew any great enthusiasm for my blandishments. I put it in the first funny little moraine that I ever had. This was

till early autumn, the plants carry a succession, sometimes a multitude, sometimes just a few and then a multitude again, of giant forget-me-not flowers, as big as sixpences, of a delicious soft clear lavender blue.

The grey smooth leaves make as perfect a setting for the soft blue flowers as the quiet grey



MR. ELLIOTT'S COLONY OF *OMPHALODES LUCILIÆ*.

an affair of granite whose chief and only merit was that its rough surface discouraged the promenading of slugs. There, in full sun, and deprived of lime, sat *Omphalodes Luciliæ*, a stunted invalid. Then one day I got a broad hint as to what the plant really likes. In full shade under a north wall on a silly little heap of bricks and mortar, especially mortar, I saw *Omphalodes* flowering and flourishing rampantly. Lime and shade! The exact opposites of what I had been providing! The hint was too broad to miss; and I had at Stevenage the very place to try the experiment, on a newly made limestone moraine rock garden. At the northern end and sloping to the north was a broad comfortable run of limestone moraine mixture between grey water-worn rocks. I dug up my old sun-stunted plant, pulled it ruthlessly to pieces, making half a dozen well rooted divisions and planted them in their cool limestone home. The improvement was immediate and quite remarkable. Every piece took hold at once and set to work to grow with real enthusiasm and they have flourished increasingly for the last eight or nine years. What a lovely plant it is when healthy and given a good setting. Here the leaves are big and fat and of a pleasing Quaker grey and from May onward, right through summer

rocks make for the whole plant. Not only does my colony of *Omphalodes Luciliæ* flourish and flower, it sets good crops of seeds and these have given me young plants which I grow in small pots with quantities of lime chips in the soil. Self-sown seedlings, too, spring up spontaneously among the old plants.

There is a tradition among garden writers that slugs have a passion for this plant and will travel enormous distances to obtain it. My own experience of slugs teaches me that they are very whimsical creatures. They will go to any lengths to obtain a certain plant in our neighbourhood, while the slugs of the next parish would not thank you for it. The Stevenage slugs are quite unconventional as regards the pleasures of the table. They would not cross the street for *Omphalodes Luciliæ*; they do not care a rap for *Aster alpinus*, are apparently quite unbiassed by the catalogue value of the plants they eat and they seem to ignore all those plants which journalists have done so much to popularise among the slugs of this country.

I give my hint of shade and lime for *Omphalodes Luciliæ* for what it is worth. It works here like magic, as is shown in the accompanying photograph of part of my colony. But I know a garden in

Petrocallis pyrenaica, *Oenothera pumila*, the *Globularia* or *Mazus*. There is, indeed, a host of first-rate little plants admirably suited to accompany the choicer and more difficult things, and were these more commonly used as nurse plants or as a carpeting one feels convinced that they would not only help many an amateur out of the problem as to how he can better please his more obstinate favourites, but they would at the same time render the almost naked soil "pockets" one sees in so many rock gardens much more attractive.

A. T. J.

THE KALMIAS

NO one engaged in planting *Rhododendrons*, *Heaths* and other peat shrubs should overlook the claims of the small but select genus *Kalmia*, of which *K. latifolia* is the finest and easiest. This North American species, with its broad, *Rhododendron*-like leaves, is usually seen as a shrub of about 4ft. in height, and it is accommodating enough to thrive on any good lime-free loam as freely as it does in peat. The largest specimens of this kind, one which it has been my good fortune to see in full flower every season for many years, is growing in ordinary yellow loam, and it has attained a stature of some 6ft., the diameter at the base being quite as much. This shrub is, on reliable testimony, not less than 100 years old, and it is growing on a lawn with full exposure.

The large, pentangular flowers of *K. latifolia* are borne in abundant terminal clusters in May. They are of a peculiarly waxy texture, and in the ordinary type are vivid coral red in the bud, opening to a pale rose pink which passes into white. In some forms, however, the blossoms are of a richer colour, the full-blown flower retaining the characteristic brilliance of the bud stage. But all varieties are first-rate and never fail to attract considerable attention. When planting *K. latifolia* in districts where peat does not exist a little leaf-mould should be worked in about the roots, and old cow-manure in early spring is highly beneficial.

Though *K. latifolia* excels all others in size and beauty of blossom, no less than in ease of culture, the smaller *K. angustifolia* should always be given a space where suitable conditions exist. This is a very charming little bush of about 2ft. or more, with smaller, blunter leaves than the above. The flowers are rosy pink, saucer-shaped and appear at the tips of the branches in early June. The flowering season of this species, however, seems to vary considerably with weather conditions or locality, and the beautiful crimson variety, *K. a. rubra*, is often an autumn bloomer. There was a group of this latter form in full blossom at Kew in the second week of October last, but none of the other kinds which I saw in those gardens had a flower to show. There is a true alpine form of *K. angustifolia* which I came across growing near Lake Louise in the Rocky Mountains a few years ago, an exceedingly pretty dwarf trailer with brilliant crimson flowers. This I have failed to discover in the lists of English nurserymen, though it is doubtless obtainable.

K. glauca is a narrow, greyish-leaved little shrub of 18ins. or so, though old plants may be found of considerably greater height. The flowers (June) are about half an inch across, of the same general pattern as those of the other species, and of a deep satiny pink. Both *KK. angustifolia* and *glauca* appear to be rather more

impatient of drought than *K. latifolia*, and it is probably on that account that they do not always prosper so well in loam as the last named. An atmosphere inclined to humidity is also a desirable feature. For these reasons a mixture of

leaf-mould, peat and old cow-manure may be used where the natural soil is not of the best, and the site chosen should be one that is fairly cool and moist, yet freely drained and screened from the midday sun and high winds. J.

A SELECTION OF FUCHSIAS

THE following brief notes on the behaviour and merits of the various varieties of *Fuchsias* grown here during the season just ended may perhaps be of interest to some of the many readers of *THE GARDEN*, and also, I hope, may be of help to some who are contemplating taking up the cultivation of this beautiful and easily grown cool greenhouse plant.

The summer of 1922 can hardly be said to have been a good one for the *Fuchsia* as, with us at least, the flowers and buds were inclined to drop and damp off owing to the unusually damp atmosphere and lack of sunshine. The gem of our collection was undoubtedly *Jeanne d'Arc*, and at the present time (October 25th) it is still flowering. The colourings of this variety are very beautiful, the reflexed sepals being broad and of a beautiful soft pink shade, while the corolla, when the flower first opens, is of a deep blue tone, changing in the older flowers to a rosy lilac; it is one of the earliest to bloom and is free flowering, almost to a fault, as it is very difficult to get cuttings from it on that account.

Isabelle is another very beautiful sort, bearing huge double flowers which hang in clusters at the ends of the growths. The sepals are carmine and the corolla is pure white veined carmine. *Elsa* is of somewhat similar colouring to *Jeanne d'Arc*, though the sepals are paler in colour and the corolla is more of a reddish violet shade, while the flowers, though larger individually, are not produced nearly so freely or continuously and, in the writer's opinion, are not of such good shape. *Mauve Beauty* was grown here for the first time this year and has quickly established itself in favour; the double corolla is of a very beautiful shade of mauve or pastel pink and the horizontal sepals are of a very deep red. *White Queen* was one of the earliest to flower and was very beautiful during the month of June; it is a single *Fuchsia* with long tube and white horizontal sepals, while the corolla is vermilion; the foliage is large and of a deep green, shaded bronze. *Prince of Orange* is another single that is worth a place in any collection, in fact I should be inclined to choose it in preference to *White Queen* as it is more continuous in flowering; the tube and sepals are short and broad and are shaded with orange, while the corolla is of a very rich orange-red shade. *Earl of Beaconsfield* is of somewhat similar though lighter colouring, but the tubes are very long and the individual flowers are smaller. *Swanley Yellow* is another fine single of similar type, but the small flowers have corollas of a much more yellow shade; the foliage is exceedingly handsome being very broad and of a deep sage green colour.

Rose of Castille is an old free-flowering sort of red and purple hues and is still well worth growing. *Pink Paul* is a variety that was introduced by Mr. H. J. Jones, Ryecroft Nurseries, in 1921, and the name is fairly descriptive of the colour; the flowers are not large, and the sepals and semi-double or double corolla are of a deep pink shade, while the foliage is dull green and velvety to the touch. *Princess Dollar* is a very free-flowering variety that is really useful for indoor decoration on account of its compact bushy habit of growth; the flowers are small, but very bright, the double

corolla being of a deep violet shade, while the sepals are carmine-red. *Avalanche* is an old favourite of similar colouring to *Princess Dollar*, but, unlike that variety, the flowers are very large while the foliage is shaded with golden bronze.

Pasteur is a fine double sort that bears large flowers in great profusion; the sepals are red and the corolla is greyish white, heavily veined with red. *Rolla* is one of the more delicately coloured *Fuchsias* and is certainly very beautiful; the double corolla is white and the sepals are of a soft salmon pink. Both contrast well with the handsome deep green foliage.

A very fine *Fuchsia* with ornamental foliage is *Thalia*, a hybrid from *F. triphylla*; the leaves are large and velvety and of a deep bronze shade while the tiny trumpet-shaped flowers are carried in clusters and are bright orange red in colour, making a fine contrast. *Sunray* is another beautiful variety that has foliage of a pretty combination of cream, rosy salmon and soft green, while *Wave of Life* has bright golden foliage and is a useful variety for summer bedding.

All the above mentioned *Fuchsias* can be strongly recommended to anyone desirous of starting a collection, although I am quite well aware of the fact that I have probably omitted many varieties that another grower would recommend and it would be of interest if some other amateurs would contribute a few notes on their favourite varieties, as it is seldom that there is any correspondence on this beautiful and easily grown plant. In conclusion I will give a list of what I consider the best twelve sorts, taken from those mentioned, for anyone about to start their cultivation and will place them in order of merit so that it may perhaps be of help where less than a dozen are required. *Jeanne d'Arc*, *Isabelle*, *Prince of Orange*, *Avalanche*, *Rolla*, *White Queen*, *Elsa*, *Pasteur*, *Mauve Beauty*, *Princess Dollar*, *Thalia* and *Swanley Yellow*. The above selection gives a wide range of colour and also diversity of type, so that it should contain varieties that will appeal to all.

Belfast.

CECIL M. BAILEY.

THE ORNAMENTAL CRABS

AN important point about these very beautiful and interesting trees is the length of time during which their fruits remain ornamental or, indeed, remain on the tree at all. The forms and hybrids of the Siberian Crab, which are the only ones at all palatable in a raw state, do not remain long on the branches when ripe. Their fruits, moreover, are very attractive to birds. The forms of *Pyrus Malus* on the other hand are usually very sour and little to the liking even of the hungry starling. *Pyrus spectabilis* is an unpalatable species, so is *P. Niedzwetzkyana* and the same may be said of their delightful hybrid, *P. Eleyi*. The parentage of *P. Eleyi* was, by inadvertence, wrongly given in *THE GARDEN* for October 28, page 537, *P. floribunda* being mentioned as one parent instead of *P. spectabilis*. *Pyrus Ringo* is less attractive than some to birds because of its yellow colouring. Otherwise, no doubt, the fruits would quickly vanish as it is not at all bad eating.

OCTOBER IN A WEST SOMERSET GARDEN

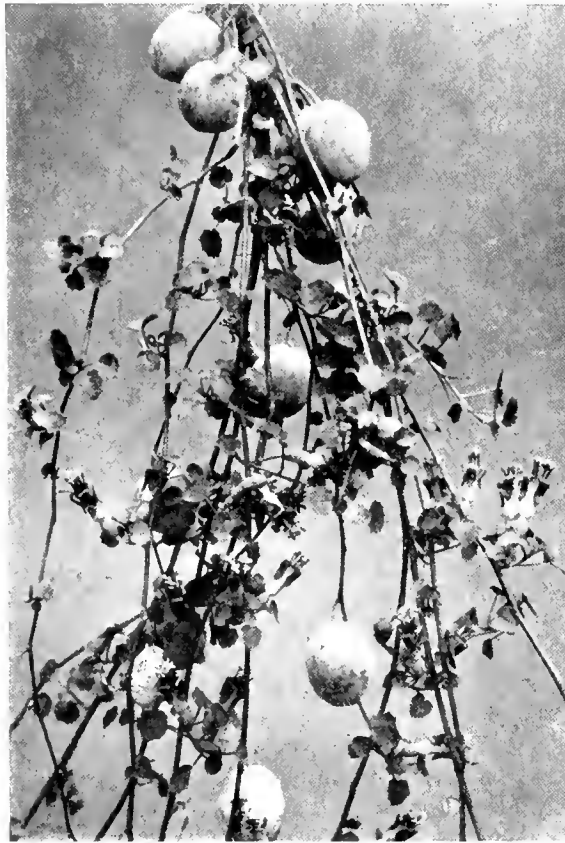
USUALLY one of the most enjoyable months of the year in the mild South-West, October, this year was notable mainly for unfavourable climatic conditions. With the exception of two or three days early in the month, there was practically no sunshine, a bitter north-east wind having been much in evidence. Still, the garden from which I am writing lies in a fairly sheltered spot near the sea, and despite frosts and winds there has been quite a fair display of blossom of various sorts.

Even in November *Buddleia auriculata* scented the air with fragrance from its small cream-coloured flowers, and made such strong growth that it had frequently to be hard pruned to keep it within bounds. It succeeds well here both on a wall and as a bush, and is much hardier than *B. asiatica*, with which it has often been confused. In the early part of October there were still flowers on a very beautiful form of *B. variabilis*, which was collected in China by Farrer and is apparently unnamed as yet; its semi-pendent habit and smaller, neater growth than the type renders it most attractive for small gardens. Lack of sun retarded the colouring of the *Berberis*, both as regards foliage and fruit, though *Berberis yunnanensis* already had some vivid scarlet leaves. *B. Wilsonæ*, *B. subcaulilata* and *B. polyantha* flowered much later than usual, consequently we could not expect much shew of berries till later autumn. On a low wall facing south *Cassia corymbosa* was a beautiful sight for many weeks; its deep golden yellow flowers shew up so well against the shining green foliage. It is making such strong growth that it threatens to smother its neighbour, *Feijoa Sellowiana*, which was badly broken by a heavy snowfall last April. The lovely *Lonicera Hildebrandtii* on the same wall still bears a few of its giant Honeysuckle blooms, but is happier in a more sunny season. It is growing entangled with that rampant Brazilian *Araujia sericifera*, which was a mass of flower, but failed to set fruit this year as it did last season. Near by a pretty picture was formed by the dainty Australian *Sollya heterophylla*, whose lovely blue flowers on thread-like stalks appear here and there in the midst of that wonderful Chinese Vine, *Vitis Henryana*, one of the most exquisite of all plants in its autumn livery.

Rosa Moyesii, grown in three years to a large plant armed with fearsome thorns, is as beautiful with its vivid scarlet hips as it was in June when the great ruby Roses were at the height of their glory. In front of the Rose is another berry-bearer of a very different type, the New Zealand *Hymenanthera crassifolia*, a box-like shrub allied to the Violet, laden with tiny piebald berries unlike those of any other plant I know.

In early October *Ceratostigma Willmottianum* was still very charming with its exquisite blue plumbago-like flowers, but the bitter winds soon chilled them and made them look pale and washy. *Lithospermum rosmarinifolium* had already begun

to put forth its incomparable deep blue flowers, and will continue to do so throughout the winter unless the elements prove especially unkind to this treasure from sunny Capri. *Leptodermis pilosa*, somewhat of a new-comer from China, still kept up a succession of small pale lilac trumpets, perhaps more appreciated in autumn than among the summer wealth of blossom. Sheltered by the silvery thicket of *Convolvulus Cneorum* a young plant of *Polygala ruscifolia* has flowered steadily for the last three months, its purple pea-like flowers rendered very charming by the curious white brush-like stamens which protrude from the lower wings. Here, too, nestles *Chorizema cordatum*, another choice Australian,



FRUITS AND FLOWERS OF FUCHSIA PROCUMBENS.

well set with buds for a display early in spring—it frosts permit. The Pomegranate (*Punica granatum*) has been flowering in a mild way for some months, probably encouraged by last year's roasting, but though it grows fast enough and is apparently perfectly hardy, it does not seem to wish to give us its flowers with any lavishness. Lack of sun this year is no doubt the reason for the non-flowering of *Bomarea multiflora*, that glorious climbing *Alstromeria* which annually sends up 12ft. shoots through a tangle of white *Cianthus puniceus* and *Rosa sinica* *Anemone*. *Abutilon megalopanicum* still swung gold and crimson lanterns from its slender branches, and is one of those shrubs which looks far more tender than it is in reality. It is a very rampant grower and bears cutting back well.

Myrtus Ugni was laden with crimson fruits, not yet ripe, with their delicious strawberry flavour, but very beautiful and distinct from other shrubs,

The shrubby *Pentstemon cordifolius* still bore some of its showy crimson flowers, so unlike the familiar species of this great genus. Another plant which always perplexes those who have not met with it before is the red and yellow *Lobelia Cavanillesii*, with buds resembling the head of a toucan and very far removed in appearance from the bedding *Lobelias*.

The *Fuchsias* continue to flower well in this neighbourhood until winter has definitely arrived. During October none was more charming than a hybrid called *Venusta* with very long, tubular blooms, but it is tender and gets cut to the ground in most winters. The tiny flowered *F. Cottinghami* was laden with scarlet flowers, and is quite one of the most desirable of all *Fuchsias*. *F. procumbens* from New Zealand has enjoyed the damp of this year, and its prostrate stems are laden with purplish crimson fruits and quaint blue-anthered blossoms. For long-continued flowering *Diplacus glutinosus* is one of the best plants I know, and cuttings struck in autumn make nice little shrubs the following season. The dark red variety and the ordinary buff-coloured one are equally satisfactory in the Western Counties. *Salvias*, of course, are invaluable for autumn colour. Most precious of all in mild districts is the glowing scarlet *S. fulgens*, which is quite hardy here. From cuttings struck in September of last year we have had bushes 6ft. high, a mass of bloom from top to bottom. *S. Grahami* is a much smaller-growing shrub, at least as hardy and of great beauty, and the Pineapple *Salvia* (*S. rutilans*) is now in flower, an old plant being about 7ft. high. *S. coccinea* is very vivid in hue, but too tender to winter unprotected outdoors, though this year some self-sown seedlings have come up and have flowered. *S. patens* is unrivalled among the true blue flowers of autumn, and the newer *S. uliginosa* is very valuable for its tall habit and spikes of clear blue flowers at this season. It is a better plant than *S. azurea grandiflora*, with which it is much confused.

Another beautiful mass of blue was conspicuous in the border where a group of *Pentstemon heterophyllus* had flowered persistently since June. *Cuphea ignea* is yet another wonder for flowering over a long period, and is most attractive in a mass and when the individual flower is closely examined—opinion being divided as to whether it more resembles a cat or a shrimp!

In the rock garden a good many plants continued to flower as merrily as in summer. *Androsace lanuginosa* being very lovely. This is quite one of the most beautiful and lasting of rock plants. The intense blue of *Lithospermum prostratum* contrasted well with the equally vivid scarlet of *Verbena chamaedrifolia*, which has run far beyond its allotted home and invaded both *Lithospermum* and *Androsace* territories. *Arenaria grandiflora* had a profusion of its large white blooms, quite reminiscent of the spring, but *Parochetus communis* was only just shewing its exquisite blue pea flowers amid its dainty trefoil leaves. A dull, damp summer agrees well with this moisture-loving Himalayan, which soon perishes in a scorching season unless freely watered. The noble foliage of *Geranium anemonifolium* gives welcome shade and shelter to that charming wee trailer *Gaithera trichophylla*, whose amazingly large berries were just beginning to assume their unique blue shades, almost suggestive of some strange birds' eggs lying on the tiny stems and deep green leaves.

Irises, too, have been helping to bring interest to the autumn garden, Mrs. Alan Gray in particular bearing many fine stems. *I. unguicularis* had begun to flower, and will keep up a succession till next April. N. G. HADDEN.

CORRESPONDENCE

ROSE TEST GARDENS.

YOUR readers may be interested to know that my Council had recently under consideration the question of the setting up by amateur rosarians of Rose test gardens in different parts of the country. The Council on October 30 last unanimously passed the following resolution: "That if and when a trial garden for Roses is set up by

lanceolate, while the stem leaves are long and sessile. It appears to be rare in Switzerland, growing only on some of the Southern Alps in Valois on the Italian Frontier, is also a native on the Alps of Savoy and Dauphiné in Italy, in Bosnia and Montenegro. It is said only to grow in stony silicious rock and is very local, but from the way it grows here in soil that contains lime



AN UNUSUAL CATCHFLY, *SILENE VALLESIA*.

the National Rose Society, such garden shall be run by and under the direct control of the Society."—COURTNEY PAGE, *Hon. Secretary, National Rose Society.*

A NEW BARBERRY.

ON October 31 a hybrid *Berberis* received an award of merit from the Floral Committee of the Royal Horticultural Society when shewn under the name of Lady Beatrice Stanley. It was, however, not Lady Stanley's intention that the *Berberis* should bear her name, and the Committee has agreed that it should be called in future Sibbertoft Coral.—W. R. DYKES, *Secretary, Royal Horticultural Society.*

AN UNCOMMON BUT EASY ALPINE.

SILENE VALLESIA is spoken of as rare. It certainly does not appear to be very common in gardens, but although perhaps not so brightly coloured as some, it is one of the most desirable of the Catchflies. It is quite robust and spreads freely, but only grows about 4ins. high. It has viscid pubescent stems which are assurgent and slightly branched. The flowers, which are borne in May and June, are long-peduncled, terminal, rarely in pairs. The corolla with bud segments, the tips of which soon curve, is of a lilac-rose colour, while the colour below is of a brick red. The large, tubular, elongated calyx, bulging like a vase, glandular and pubescent, somewhat inflated after anthesis, is whitish striped with red, and shows up against the bright green foliage. Some of the lowest leaves are spatulate, others

it should grow in almost any soil. It is seen at its best in early morning, for, like some other members of the genus, it is often closed during the brighter part of the day, but even then the striped inflated calyx is quite attractive. It is readily grown from seed or pieces taken up soon grow and make a good clump.—F. G. PRESTON, *Botanic Garden, Cambridge.*

TWELVE BEST SHRUBS.

NO doubt every reader of THE GARDEN is an ardent admirer of flowering shrubs and has been much tempted to send you his or her views as to the best. If you are not—though I expect you are—already overburdened with suggestions, I offer the following: *Spring*.—1, Darwin's Barberry (or *stenophylla*); 2, a Weigela (or dark red *Ribes*); 3, *Forsythia suspensa* (or a *Cydonia*). *Summer*.—1, *Philadelphus grandiflorus* (or *Lemoinei*); 2, *Escallonia macrantha* (or *Kalmia latifolia*); 3, *Hydrangea hortensis* (or Tree Peony). *Autumn*.—1, Spanish Broom; 2, *Buddleia superba*; 3, *Tamarix hispida vestivals* (or a *Veronica*). *Winter*.—1, *Hamamelis mollis*; 2, one of the new coral fruiting Barberries (or *Pernettya*); 3, *Skimmia japonica* (male and female). I take it no one asks advice as to ordinary cottage garden indispensables, such as Rose, Lilac, Laburnum, Lavender, etc., or regarding such well known but special types as *Rhododendron*, *Azalea* and *Rock Rose*. Also it would hardly be wise to exclude the all-round good shrubs for the sake of the tropical beauty of such as *Crinodendron*, *Andromeda*, *Fabiana*, etc., which must have suitable soil and locality.—E. T. PAUL.

A FINE ANEMONE.

IN the article on Anemones in the issue dated November 18, no mention is made of that excellent variety *Anemone Mallenderi*. It is one of the very best of all the *Pulsatillas* on account of its splendid rich purple flowers. It was raised by Mr. J. Mallender of Scrooby, near Bawtry, and is a reputed cross between *Pulsatilla montana*. There are two distinct strains, one with more blue and the other with more red or claret in the purple. Anyone who has seen the long beds of it at Scrooby as I have done could not fail to be impressed by its rich magnificence.—JOSEPH JACOB.

LATE STRAWBERRIES.

I ENCLOSE a small bunch of Royal Sovereign Strawberries which I picked this morning (Nov. 19) in my kitchen garden. Is not this extraordinarily late in the year for a Strawberry practically to ripen out of doors.—J. A. BLISS.

[The fruits sent were full grown and one had changed colour. Such late fruits are more common after dry summers than wet ones. There are, of course, varieties of which late fruits may be relied upon, but Royal Sovereign is not one of these.—ED.]

WHAT BECAME OF THE GRAPES?

I SEE in THE GARDEN of October 28, in your account of the Royal Horticultural Society's Show on October 17, "According to the official list of awards Lady Margaret Bickersteth was awarded a card of cultural commendation for Sultana Grapes, but search and enquiry failed to discover them."

I shall be very glad if you can help to unravel the mystery which surrounds this exhibit. I helped my mother to pack two magnificent bunches, weighing together, if I remember right, about 9lb. We are not, of course, professional fruit packers, but the packing was a long business and done with minute care. Two purposely made hinged and paper-covered sloping boards for exhibiting the bunches were tied to the box containing the Grapes, with a letter of explanation for the Secretary. Our gardener took the box from Cottingham to Doncaster and handed it himself to the guard of the London train. My brother met the train at King's Cross and took the box in a taxi to Vincent Square. I do not think under the circumstances that it is possible for the Grapes to have been injured in transit, and a proof of their safe arrival is the "Card of Cultural Commendation," and my mother also had a letter from the Secretary of the Royal Horticultural Society expressing his interest and that of the Fruit Committee. My brother was not able to attend the show, but went in the evening to retrieve our property, and found only "the remains" of one bunch. One whole bunch and some of the other had apparently been stolen or eaten by the public during the show, and as your representative failed to find them, they seem to have been removed early in the afternoon. I do not know if this is a common occurrence with exhibits sent unattended, but it is not very encouraging to amateur exhibitors, who often, as in this case, may have taken an immense amount of trouble and incurred some expense in order to make an interesting display. I hope later to send some photographs of this little known Grape for publication, which will doubtless be a safer way of "exhibiting" them.—RUTH BICKERSTETH.

As far as we can ascertain these Grapes were never placed on public exhibition. They appear to have been left in the committee room. It is certainly desirable that all exhibits should be shewn to the public. We shall be interested to see the promised photographs.—ED.]

WILD FLOWERS AT COUNTRY SHOWS

I SEE in THE GARDEN for October 21, page 534, a paragraph signed "Horticus" recommending collections of wild flowers, including rare ones. Is it wise to encourage collecting anything rare? The country suffers from "collecting" rare birds, and although the collecting of rare flowers may possibly mean only the blossoms, in many cases it will probably mean getting the roots too. It is an interesting subject, and perhaps you could open discussion of it in your pages.—H. C. FORD.

ROSE PINK DELIGHT.

CAN you tell me anything about a Rose called Pink Delight? I was told it is a good pink single variety, but cannot trace it. If you know such a Rose, will you tell me its exact colouring and something of its habit of growth, etc.—H. G.

[The single Rose referred to would be Laxton's Pink Delight, which is a dwarf polyantha variety of wild rose colouring. The single flowers are of

points out several forms of hybrids, the colours of which vary from shades of red to yellow. It is worthy of note that they make excellent plants for bedding out in summer, and when so employed those which are pale in colour take on deeper tints in the open air. To see the *Diplacus* at its best under glass it should be planted in a border at the foot of a wall, where it makes vigorous growth in comparison to specimens pot-grown and, consequently, restricted at the roots.—CLAREMONT.

ABOUT SINGLE ROSES.

I DOUBT not that Mr. Jacob's article on page 553 would be read with considerable interest by lovers of single Roses. Notwithstanding the fact—as the writer has pointed out—that there is not one class in the National Society's schedule for single Roses, the day has gone when it is necessary to make any apology for their inclusion in the garden. If Roses are grown at all, then one cannot but admit their value for table decoration,

such, and the day will come when folk who grow them will pause as they stoop to cut the sprays on some June morning while the dew is upon them and say to themselves "How lovely! why ever didn't we grow them years ago." No! prejudice cannot stop single Roses. They are here, are coming still, and will continue to come, because the public have become quite enamoured of them.

Their delicate fragility, their charmingly subtle tints and the ease with which they can be grown are all reasons why they ought to be found in every garden where the Queen of Flowers holds court. The introduction of varieties like Irish Elegance, Irish Fireflame and Irish Afterglow did much to popularise them, and the worth of singles has been further enhanced since the sending out of Princess Mary, Mrs. C. E. Salmon and Isobel. These only need to be seen in bloom, surrounded in most instances with highly coloured foliage, to call forth admiration and a desire to have them. Wherever Roses are grown to-day for table decoration one can scarcely conceive an entire absence of singles, which are graceful and charming to a degree.—W. LINDERS LEA.

CHRYSANTHEMUMS AND "CURIOS."

IT was with some curiosity that I went to see the Chrysanthemum Show at Monte Carlo. Palms and Bananas do not agree somehow with one's idea of where to grow that useful winter flower. I must own, too, that the way this hardy flower withstands the heat and drought on this coast is an eloquent proof of the good gardening for which Monte Carlo is renowned. The "finish" of the enormous flowers alone shewed that a cooler climate would have suited them better, but the stocky growths and splendid foliage could not be surpassed anywhere. The hairy petalled Japanese varieties, however, were finer and more finished than any I can remember, and the bright pink of one unnamed variety was especially beautiful. They must enjoy more heat and light than other kinds. There were *no stands of cut bloom*, but instead enormous vases with sheaves of massive flowers arranged in many instances with coloured foliage of the Venetian Sumach, *Rhus Cotinus*. The effect was strikingly good, and might be copied elsewhere. Generally there were in each of these huge vases two varieties contrasting in size but matching in colour as much as possible. The effect struck me as being particularly artistic. Where do they find these huge vases, celadon green in colour? A dwarf could easily hide in them. They made one think of Ali Baba and the Forty Thieves. The comparative absence of white and yellow varieties was remarkable, and I noticed that the visitors gave all their admiration to the highly coloured blooms, though any shade of salmon pink was noted.

I was delighted to see a number of the new little dwarf Japanese single varieties that were shewn. They are decidedly attractive, though one loses all sense of their being Chrysanthemums (is that praise, I wonder?). They masquerade as *Asters*, *Cinerarias* or *Senecios*! One or two were silvery grey in colour, and I could have passed them as *Michaelmas Daisies*. One very distinct form mimicked a common Daisy to the life, and I could have sworn that a third was a *Senecio Jacobaea*! There are many shades of Havana or red-brown, but no really good yellow among the real dwarfs, those shewn being decidedly straggling and untidy in their growth. Open-air culture has much to say in this section, and I should doubt if they would be half so taking were they grown in pots under glass. All the same I should have a try.—E. H. WOODALL.



ROSE LAXTON'S PINK DELIGHT.

good size—much larger than the ordinary polyantha varieties—and the plant is a robust grower. The flowers are too irregular to appeal to a florist, but very attractive to more ordinary folk. The picture reproduced herewith gives a good idea of the habit and appearance of the plant. Quite a new variety, it is being sent out by Messrs. Laxton Brothers of Bedford.—En.]

DIPLACUS GLUTINOSUS.

THE interesting note on page 560 of THE GARDEN concerning *Diplacus glutinosus* being grown out of doors in mild localities calls to mind a specimen I saw some years since climbing over the front of a house in Cornwall, where it had evidently been long established. It is only in favoured districts, however, where severe winters are practically unknown that one can hope to succeed with it out of a house. In a greenhouse from which frost is excluded the *Diplacus* answers very well and is admirable for training over the back wall of a lean-to house or under the rafters. Small plants in pots were found in most establishments at one time, but of recent years they appear to have dropped out of favour. "T. W. B."

and for the home, and of all sections none is more beautiful or provides us with daintier specimens than do the single varieties. I can appreciate all that Mr. Jacob has advanced in their favour, and it seems to me that the sooner the executive of the National Society reviews the situation, and does what is right and proper by admitting the singles with full honours, the better it will be for the Society. It is, I venture respectfully to submit, only another case of history repeating itself. For a long time single Chrysanthemums were looked upon in disdainful fashion by many growers, and at first little encouragement was given by the N.C.S. to them; as a consequence not a few provincial societies, taking their cue from the N.C.S., with which they were affiliated, were disposed to give them the cold shoulder. I was on the executive of a provincial society and remember many a tussle we had before the walls of prejudice were broken down. The fact is that the eyes of many growers in those days suffered from the "big bloom beam," and they had no vision for the charm of the fragile and dainty singles. It is similar with single Roses. Objections may be taken to them in certain quarters, but their own beauty will overcome

THE ASPARAGUS BEETLE

The Life History and Control of a Serious Pest.

WITH the increasing popularity of Asparagus as a vegetable and the consequent probability of a number of new beds being made this autumn and planted next spring, it is necessary that more attention be paid to a pest which does a great amount of harm, especially to young beds and edible shoots.

The Asparagus beetle (*Crioceris asparagi*) is the only insect in this country which does an appreciable amount of damage to this crop. It is a well known fact that gardeners grumble if the "fern" is picked, as it weakens the roots, yet this beetle and its larva can be responsible for a complete defoliation of the bed in summer, while the marketable shoots are often so contaminated by the eggs and larvæ as to render them totally unfit for sale; also the success of the establishment of a new bed is seriously jeopardised if the beetle once gets firmly established. The distribution of this pest is at present localised, but its increase is reported each year, and unless stringent methods of control are immediately adopted the success of Asparagus growing in this country cannot in future be relied upon. At present the counties of Gloucester, Warwick, and Kent and the London district are most infested, but the pest is gradually spreading westward. Its presence has this year been reported from Somerset.

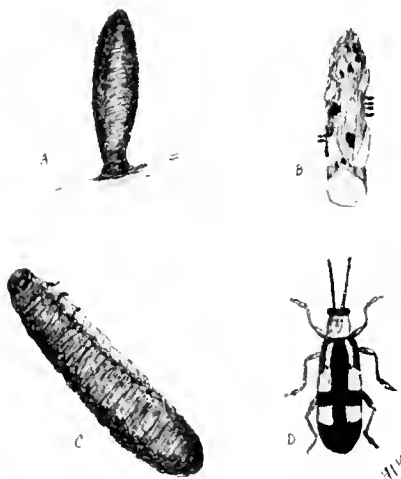
The adult beetle is graceful and slender and little less than a quarter of an inch long. The elytra are shiny dark blue and yellow or dirty white. There is a dark band running down the centre of the back with two lateral extensions towards the sides, giving a somewhat chequered appearance. The outer border is reddish, as is also the thorax, which latter has a number of faint dark markings forming a triangle, the base of which lies towards the insect's head. The distribution and relative amount of the blue and yellow varies considerably in different localities and in individual specimens. Some beetles appear to be marked with black and yellow, while on others it appears blue and white. On the same Asparagus bed even, specimens may be found which, as regards colour, differ considerably. The head is black, with fairly prominent eyes, and the long eleven-jointed antennæ are generally carried forward from the head. The identification of this beetle is, therefore, comparatively easy, even apart from its natural surroundings, the alternate colouring giving it a characteristic appearance.

The larvæ are of a dirty greenish grey colour, much wrinkled and always having a moist appearance. Apparently they moult three times, and when full fed are practically half an inch long. Six jointed legs are present, also a foot-like tubercle on each segment except the last, which bears a more distinct proleg. The head is black and possesses a biting mouth, while a drop of sticky black fluid may be excreted by the larvæ when disturbed—a peculiarity which is characteristic of most Chrysomilidæ. When full fed they generally go down to the soil to pupate, the parchment-like cocoon being hardened frothy saliva and is covered with particles of earth. Lintner, however, says "that instead of going down into the soil some larvæ merely conceal themselves beneath dead leaves and other material on the surface."

The large dark brown oval eggs are about one-twentieth of an inch long, and are found glued on to the fronds or heads of the Asparagus. The

larvæ hatch in about five to seven days and are full grown in from ten to thirteen days. The pupal stage lasts two to three weeks, but the beetles are matured three or four days before their appearance above ground. It will thus be seen that the life-cycle takes from four to seven weeks, depending on local climatic conditions. There are two or three broods a year, both adults and larvæ being frequently found up to October.

Adults and larvæ are harmful. Both continually feed from late May—when the edible shoots are attacked—throughout the summer into autumn, when, if present in large numbers, the green epidermis is gradually stripped from fronds and stem, giving the bed a whitish dead appearance. Also, as was mentioned before, the marketable value of the Asparagus is considerably reduced by the presence of eggs and grubs on the shoots,



A, Egg of the Asparagus Beetle (·18);
C, Larva (·6); D, Imago (·4); B,
Damaged shoot of Asparagus.

and their soiled appearance due to the black fluid which is excreted by the larvæ.

The control of the pest is greatly assisted by certain natural factors. In the first place, Fernald says "excessive heat appears to kill many of the grubs, and the alternation of severe cold with much warmer periods in the winter has a similar effect on hibernating adults." Hot weather and strong sunlight during summer cause many of the eggs to shrivel up, and the larvæ, if not killed outright, fail to reach maturity.

Predacious insects and birds help considerably in keeping down excessive numbers of the pest. Among the former may be mentioned the chalcid, *Tetrastichus asparagi*, which is a parasite on the beetle, since the adults eat some eggs and oviposit in others. The larvæ or "niggers" of the two-spot ladybird and the lacewing fly destroy the larva of the beetle.

There are various artificial methods at the disposal of the horticulturist. On small beds handpicking is perhaps the most effective, especially if it is resorted to before the beetle has become firmly established. On larger areas a very effective method of control, and one which is largely practised in America, is that of keeping the beds as clearly cut as possible, but leaving a few stalks at intervals to act as traps, on which the adult beetle lays her eggs, which can then be destroyed by cutting and

burning. This is continued throughout the early season, the traps being cut about every week.

The choice of several sprays is open, and this means of control has always been found very effective in practice. The best, perhaps, is an arsenate spray—arsenate of lead paste three to three and a half teaspoonfuls (level) to one gallon of water. In mixing the paste it is better to add some water to the paste and stir thoroughly before adding the rest of the water in order to get a uniform mixture. The Ministry of Agriculture in their Leaflet No. 47 advise, besides the above spray, a paraffin emulsion made by boiling ½ lb. of soft soap in one gallon of soft water and then adding 2 gallons of paraffin, churning till a thorough incorporation is obtained. This should be diluted with 15 to 20 gallons of soft water before use. In Germany a spray is used composed of 5 lb. of tobacco extract and 1 pint of lysol contained in 50 gallons of water, which is quite cheap and effective. A very simple and sure method of control, however, is the dusting of the bed every three or four days in the early morning with fresh air-slaked lime. HAROLD I. KINGSTON.

CHRYSANTHEMUMS

Notes on Cultivation.

THE work connected with the cultivation of Chrysanthemums during the past few seasons has reminded me, personally, of the game of cricket. One never can tell beforehand what is going to happen. There is a lot of uncertainty about seasons always, and as climatic conditions in general affect the growth, maturity and bud production of the plants, the cultivator's interest in them is always excited and never allowed to flag. Undoubtedly these plants are finding more and more favour with the public; their blossoms fill a big gap every autumn and early winter.

In the year 1921 buds of plants in the Japanese section, grown for the production of large blooms, were shewing as early as July 15. These buds were "taken" in many instances and the resultant flowers were excellent in every way. This year the buds of the same varieties shewed prominently during the first week in August, and the resultant flowers have been splendid, in some instances 25 per cent. better than those in 1921, but almost a fortnight later in development.

Such naturally late-flowering varieties as Victory, Louisa Pockett, Mrs. R. C. Pulling, Majestic, W. Rigby, Mrs. G. Drabble, Queen Mary and Princess Mary have this year been disappointing where the cuttings were inserted too late in the winter season; but autumn propagation of these and other late ones has resulted in plants of good strength, bearing blooms of great fulness and depth.

Beginners in the cultivation of Chrysanthemums would act wisely if, on reading these notes, they set about the work of propagation of all late sorts forthwith. Cuttings inserted during November and December take, as a rule, under cool conditions four or five weeks to form a few roots. Those inserted in January, three weeks, and others still later little more than a fortnight.

There is no better position for the midwinter batches of cuttings than one on the front greenhouse stage where the shallow propagating frame should be placed. It is only necessary to keep out frost and expel excessive moisture. There must not be any forcing temperature. If the blooms of Zonal Pelargoniums keep fresh and free from damp, the atmosphere will be ideal for the cuttings of Chrysanthemums. G. G.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Hot-beds.—Material for forming hot-beds should be thrown together and turned once or twice some little time before it is required. Where no straw litter is available for mixing with the leaves it is sometimes possible to make use of late scythings from pleasure grounds, etc., to assist in a little more rapid promotion of heat from the newly gathered leaves, but a bed made from leaves only is excellent for early Carrots, etc., so long as it is made quite firm and of several feet in depth.

Early Carrots.—To augment the supply of young roots which are being produced from autumn sowings outside, some seed should now be sown in frames. Place about roins, of light, rich soil upon a bed of leaves, etc., and sow the seed in drills 8ins. apart. For early frame work a variety like Early Market is suitable.

Horseradish.—If it is necessary to make a new plantation, deal with half the bed at a time, leaving the other portion to ensure a good supply while the newly planted roots are getting established. All the strong, thong-like roots of the lifted plants will make suitable material for planting again, having first cut them into lengths of 8ins. or roins. Plant the thongs in rows about 2oins. apart and a foot apart in the rows. The old crowns may be heeled in against a north wall to be drawn upon as required. Great care is necessary when doing away with an old bed to see that all the roots, never mind how small, are dug up or they will prove a nuisance to succeeding crops.

The Flower Garden.

Beds of Perennials, such as Phlox, Salvias and Asters should be lifted now if any division of the old plants is contemplated. Should the roots have been undisturbed for several years it will be found that their centres are getting weak and exhausted, so select the growths for replanting from the outside of the clumps. It is possible to leave such beds three years and still get first class results without again lifting and replanting, so the ground ought to be well dug and have some manure worked into it. Where it is necessary to have something in flower previous to such mentioned plants, there are several kinds which may be employed, Daffodils, Polyanthus and Forget-me-nots for example. An excellent plan is to introduce Liliums, both early and late.

Seedlings.—Antirrhinum seedlings and similar plants raised from an autumn sowing, if not already pricked out, should have attention. It is not a good plan to use a great depth of soil for transplanting the seedlings into, as they stand the climatic conditions of the next three months better in a shallow soil, whether it be in boxes, frames or on sheltered outside borders. Dampness must be carefully guarded against when the plants are grown in frames.

The Hardy Fruit Garden.

Protecting Figs.—This is advisable in cold districts during a severe spell of frost. It may be afforded in one of two ways, firstly by nailing mats or stout canvas over the trees without removing them from the wall, or by releasing the whole of the branches, afterwards tying them into convenient bundles, around which may be bound some bracken, fern or straw.

Planting Figs.—One of the most important items to bear in mind when planting fresh trees, or overhauling unsatisfactory ones, is to make sure that the drainage is ample and in proper order, for this is not only all important to a good finish to the fruits, but helps a great deal in cold districts to assist the trees through the winter, especially the more recently planted ones.

Mulberries.—An old well grown tree of this interesting fruit makes a picturesque effect in a garden and looks quite appropriate in a suitably chosen spot on a lawn. While thriving in most places without any special attention, it should be given the preference of a warm position, or a wall in very cold districts.

Nuts.—Cob Nuts and Filberts thrive in almost any ordinary garden soil, but they do best in one which is well drained. It is sometimes possible to make a plantation of them on a bank or on stony ground which cannot be made much use of otherwise. Bushes are the most convenient form as a rule for garden purposes and they should be planted about 5ft. apart on a bank, or 10ft. apart in a bed. Ten to sixteen growths make a good bush and pruning may be done on the spur

principle. All weak wood may be cut out and other strong growths present in addition to the selected branches may be cut hard back to one or two eyes. If standard trees are grown, prune fairly hard until a good head has been formed, when but little is required except thinning out of surplus branches.

H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Seakale.—Another batch of crowns of this useful vegetable should be placed in the mushroom-house with a view to forcing for use during January. Failing such quarters the roots may be planted in fairly deep boxes and placed beneath the staging of an ordinary greenhouse or stove, shading from light so that crisp and finely blanched growths may result. A thorough watering at the time of planting often suffices until the growths are ready for cutting.

Rhubarb.—A dish of Rhubarb is always welcomed early in the year, and may be had with the minimum of trouble provided a little heat is available. Place the roots underneath the stage in the greenhouse and pack firmly around with leaf-mould or old potting soil. Spray the crowns overhead occasionally and keep shaded in a similar manner to that recommended for Seakale. Failing the use of any indoor facilities, Rhubarb is easily forced in its permanent quarters by placing barrels over the stools and surrounding with a good width of stable manure and leaves.

Digging and Trenching will now occupy a good deal of time, and no opportunity should be lost in having this important work advanced whenever suitable weather prevails. It is a source of satisfaction to all gardeners when it is found possible to have the bulk of the heavy digging finished by the New Year, as this considerably facilitates the carrying out of any minor alterations in the garden during the early months of the year. Trenching should be practised in the kitchen garden as frequently as possible, breaking up the bottom spit well and enriching with good farmyard manure. By working the soil deeply air is admitted to a greater depth, thus increasing the depth of the fertile layer and enabling crops to produce fibrous roots at a greater depth than formerly. In addition the free ascent of moisture to the surface during summer is encouraged, due to the greater divisibility of the soil particles.

Fruit Under Glass.

Late Grapes.—These are much esteemed when it is found possible to keep them hanging in good condition until the end of the year, it being particularly pleasurable to be able to cut luscious bunches during the festive season. Particular care is necessary at any time, but more especially in a damp season like the present, both to prevent the berries from decaying on the one hand and the skins from shrivelling on the other. To avoid decay anything approaching a damp atmosphere must be guarded against, keeping both the paths and the surface of the border dry and maintaining a gentle heat in the pipes. This will ensure a free circulation of air and prevent stagnation in the atmosphere. Air should not be admitted if the outside conditions are humid, and only allowed when the weather is fine and bright. Shrivelling of the skins is generally blamed on to the overplentiful use of fire-heat, but this may be as readily caused by the borders being unduly dry. Once this occurs no amount of water will bring the berries back to a normal condition, but the evil may be checked by giving sufficient water to carry the Vines on until the time arrives for clearing off the crop. Should this contingency occur the border should afterwards be covered with a quantity of dry litter to counteract the moisture which will arise from the border.

The Flower Garden.

Replanting Herbaceous Borders.—During open weather the work of replanting the hardy plant border may be proceeded with. The soil should be dug at least two spits deep, working in plenty of well decomposed garden refuse in the bottom spit, as this is eminently suitable for lightening and enriching the lower strata of heavy soils. Old mortar rubbish or burnt refuse from the bonfire also renders stiff clayey soils less adhesive and assists in the quick production of new roots on the various plants. On light, gravelly

soils plenty of cow-manure should be added, also a liberal quantity of turfy loam where it can be conveniently procured. In planting use discretion in the colour arrangement and utilise the outer or younger portion of the roots, as these give by far the best results. Opinions differ regarding the size of the various groups, but clumps comprising from three to five plants in each prove quite adequate and effective in most mixed borders.

JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),
Goodham, Kilmarweck.

GREENHOUSE AND CONSERVATORY.

House Cleansing.—During the winter months an opportunity should be taken thoroughly to clean all plant houses. This is very important, as clean surroundings help considerably to ward off attacks of insect pests and fungoid diseases. The roof glass should be washed and all wall surfaces thoroughly scrubbed, and afterwards lime-washed with fresh lime, to which some flowers of sulphur should be added. It is important that the lime wash should be made fast so that it will not readily wash or rub off. Various substances are used for this purpose, such as oil, and also salt, but the only material that I know of which is really effective is skim milk, using about a quart to a bucketful of limewash. All standing material on the stages should be washed and where necessary replaced with fresh. All pipe-tracks should be examined and accumulated rubbish removed, so that the pipes are clear all round; this adds considerably to the efficiency of the heating system. Ashes from the stovehole should never be placed in contact with the pipes, as the sulphur compounds in them quickly corrode iron, especially when warmth and moisture are also present. In the London neighbourhood fogs are very troublesome, leaving such a deposit of soot that it is necessary to wash the glass. Here at Kew we often find it necessary to wash the smaller houses several times during the months of November and December.

Roof Climbers.—Now is a good time to take down summer-flowering roof climbers, thinning them out and partly pruning them back. In many cases it is wise to leave the final pruning until the turn of the year, because, if pruned right back too early there is a danger of their starting into growth during the dull days. The plants should be thoroughly cleaned before retying.

Winter-flowering Begonias have been very bright for some weeks now, and should be given the warmest position in the conservatory or greenhouse. Having been placed in a lower temperature than that in which they are grown, great care is required in watering, and they will stand much better if they are kept on the dry side. As regards colour the most distinct are Mrs. Heal, Elatior, Exquisite, Emita, Fascination and Optima. The last named is very effective for house decoration, its light, elegant habit and the pleasing shade of soft orange-scarlet in its flowers making it ideal under artificial light. As the plants pass out of flower they should be returned to a house with an intermediate temperature and plenty of stock should be kept, as one must expect a good many losses during their resting period. The Gloire de Lorraine section is as popular as ever and in the conservatory should be given the same treatment as advised for the foregoing varieties.

Camellias, whether grown in beds, borders, or pots, should not be neglected as regards watering, as dryness at the root is often the cause of bud dropping. Another cause of the same trouble is allowing the plants to carry too heavy a crop. Now is a good time to commence thinning the buds, which is best done in several operations. With the introduction of many beautiful single varieties, Camellias bid fair to regain some of their former popularity. Mrs. F. Sander, White Swan, Lady Clare, japonica grandiflora, magnolia-flora and Kimberley, are all beautiful single-flowered varieties. The most beautiful of them all is C. reticulata. This species is not happy for long under pot cultivation, and is best planted out in a well drained bed in the cool conservatory, using plenty of good, rough lumpy peat in the planting compost. Stocks of this fine Camellia are generally short, many cultivators failing to propagate it successfully. Although it can be rooted from cuttings, it is best increased by grating it on stocks of an easy rooting variety of C. japonica. The scion should consist of a piece of two year old shoot. This is where many propagators fail, as they use scions from one year old wood. They should be side grafted, and then placed in a close case in a cool house.

Royal Botanic Gardens, Kew.

J. COULTS.

OBITUARY

MR. GEORGE P. BERRY.

It is with deep regret that we record the death of Mr. George P. Berry, who for the last nine years has been Senior Instructor in the Horticultural Division of the Ministry of Agriculture. It was the good and great work he performed as Horticultural Lecturer to the Edinburgh and East of Scotland College of Agriculture that gained for him his important position with the Ministry of Agriculture, and it is interesting to remember that in each instance he was the first holder of the positions, while he was also the first practical horticulturist on the Ministry's staff. Mr. Berry was essentially a practitioner, and he, wisely, looked at all problems from the cultivator's standpoint. In a sense it was this that led to his comparatively early breakdown and death, for he was decidedly an outdoor man and the confinement of a deal of office work had an adverse effect on his health. He was the son of a well known Scottish gardener, and after serving his apprenticeship Mr. Berry gained valuable experience in various nursery and private gardens and, entering the Edinburgh Botanic Gardens, soon became foreman-in-charge of the glass-house department. From Edinburgh he went to Morpeth in charge of the experimental station of the Northumberland County Council at Cockle Park, and later was made lecturer in horticulture at the Armstrong College, Newcastle, from which appointment he came to the Ministry of Agriculture.

Mr. Berry brought with him a wide experience, human sympathy and, beneath a natural reserve, a geniality which made him respected and esteemed by everyone with whom he came into contact. He died on November 11, and his funeral at Hammersmith on the 16th was attended by many prominent horticulturists. The sympathy of a wide circle will go out to his widow and family.

Dwarf Polyantha Roses.—It sometimes happens that those who have a special fondness for Roses are least able to indulge their fancy owing to limited room. To all such some of the dwarf Polyantha Roses, which need little space, should appeal. For narrow borders and small beds there is no section which yields more dainty blossoms or has longer period of beauty than the Polyantha. Arranged in colour groups very beautiful effects may be brought about, and those who have been in the habit of relying on summer bedding plants for a display are finding out that among members of this minor section of the Queen of Flowers, some, in particular, are possessed of delightfully tinted blossoms and are very graceful withal. Once planting is done and they have become established Polyantha Roses need little in the way of pruning beyond removing the dead wood every spring. We are particularly drawn to sorts like Ellen Poulsen (pink), George Elgar (yellow), Katharine Zomet (white), Eugénie Lamesch (orange and yellow) and Mme. N. Levayasseur (bright crimson). These and others provide a wonderful display of blossoms over a much longer period than is usually supposed by those who have not made their acquaintance or who prefer the more perfect beauty of form of the Hybrid Teas.

The Snakeroot.—That very decorative late-flowering hardy perennial, *Cimicifuga cordifolia*, is a plant with many inexplicable and curious "common" names. For instance, we have heard it called both Bugbane and Bugwort as well as Snakeroot. These somewhat distasteful titles have not, however, proved any handicap to the plant itself. Its dainty creamy white

flowers have seen to that, while it must be valued for its easy culture and the readiness with which it grows in semi-shaded spots in the garden. One has no difficulty in propagating established plants, for nothing could be simpler than to lift and divide in the early spring months, just about the time that new growth is commencing. A point that should not be lost sight of when planting is the desirability of associating it with some other plant that retains its foliage well into the autumn. The *Cimicifuga* flowers in September and October, but before this its own broad, palmate leaves, that were so handsome in early summer, have become distinctly shabby, and it needs something else to form a background to its stems and flowers. These rise to a height of 2ft. to 2½ft., and terminate in spikes of creamy white brush-like flowers that are at their best in early September. Below the main spikes are a number of subsidiary ones which rapidly push on, and so the plant remains decorative for a very long season. A note should be made of it for a damp semi-shaded corner where September flowers are wanted, for in really large clumps the effect is splendid.

FORTHCOMING EVENTS.

- December 5.—Royal Caledonian Horticultural Society's Meeting.
- December 6.—National Viola and Pansy Society's Meeting.
- December 7.—Wargrave and District Gardeners' Society's Meeting.
- December 9.—Ringwood Horticultural Society's Meeting.

Wattle Hurdles—a Rural Industry.—We are informed that His Majesty King George has just sent a second order for wattle hurdles to Rural Industries, Limited, of Cheltenham. By

following the Royal example in ordering these useful hurdles readers will help to keep a good number of rural workers employed throughout the winter.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

VIOLETS ATTACKED (Mrs. R. R., N. Lanes).—The damage to the Violet leaves appears to be the work of slugs in the main, but there are some small galls, not however likely to be detrimental to the well-being of the plants, caused by a minute two-winged fly. The slugs should be trapped by placing lettuce or cabbage leaves on the ground near the plants or hollowed out halved potatoes, with the hollow beneath, and examining them daily.

THE GREENHOUSE.

ARUM FOLIAGE ATTACKED (C. T., York).—The Arum foliage is attacked by a species of *Phyllosticta* which is causing the spotting. The leaves should be sprayed with Bordeaux or Burgundy mixture.

KITCHEN GARDEN.

POTATOES ATTACKED (O. H.).—The Potatoes are attacked by corky scab, due to the fungus *Spongospora subterranea*. Do not use such tubers for planting next year.

MISCELLANEOUS.

- NAMES OF PLANTS.**—W. M., Lytham.—1, *Eucalyptus globulus*; 2, *Swainsonia galegifolia*; 3, *Isoloma hirsutum*.
NAMES OF FRUIT.—H. P., Stow-on-the-Wold.—1, Northern Greening; 2, Melon; 3, New Hawthornden; 4, Calville des Femmes; 5, Royal Late; 6, Buerré Diel.
 —M. O. S., Mon.—Apples: 1, Betty Geeson; 2, Cellini; 3, Yorkshire Greening; 4, Transparent de Croncels.
 R. H., Scratchy.—Pear Darondeau.

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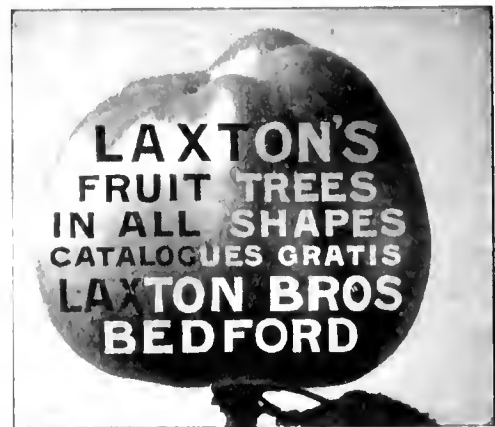
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A SELECTION OF SAXIFRAGES

THE genus *Saxifraga* may truly be considered the backbone of the rock garden. There are species for sun and shade, for precipitous cliff and for the water's edge. The generality are easy enough for the veriest gardening tyro, yet there are species exacting enough to please the most ardent lover of "miffy" plants. The genus is divided into seventeen sections, each with distinguishing characteristics, but some of them are of scant interest to the average gardener. The principal ones for garden decoration are the Silver Saxifrage group—*Euaizoonia*, the tufted group—*Kabschia*, the mossy group—*Daetyloides*, and those of *oppositifolia* kindred—*Porphyrium*. The Robertsonia section is typified by London Pride (*S. umbrosa*), and the *Miscopetalum* group by *S. rotundifolia*. The *Engleria* section contains no really easy species. It resembles in some respects the *Euaizoonia* and *Kabschia* groups. To the group *Nephrophyllum* belongs the Fair Maids of France, *S. granulata*. The *Bergenia* section includes the rather coarse leathery-leaved *Megaseas*. The *Peltiphyllum* section, which contains that admirable waterside species, *S. peltata*, is nearly related to the last named.

There are vast numbers of *Euaizoonia* forms listed by nurserymen which, considering how easily the various species interbreed, is not surprising, but is, none the less, confusing, especially as practically identical forms are often sent out under widely differing names. A few species or sub-species are indispensable. These include the gorgeous, albeit monocarpic, *S. longifolia*, in very truth the Queen of Saxifrages. If the rosettes are to attain the huge dimensions of which they are capable and the spikes are to reach their maximum of length and fullest beauty of proportioning, the young plants must not be stunted at any stage of growth. Too often, purchased specimens are pot-bound when supplied and never properly overget the check. Home-saved seeds, sown immediately they are ripe in a very gritty compost with a good lime content, will germinate readily and, given ordinary care, grow freely, but

unless the plant was isolated from other Encrusted Saxifrages when in flower the plants will not be true to type, although scarcely less interesting on that account.

Saxifraga lingulata is another admirable Encrusted species with snowy plumes, and though smaller in spike and rosette than *S. longifolia*, quite perennial and exceedingly easy in any not too hot but open exposure between rocks and in liny compost. Smaller still, but perhaps most beautiful of all Encrusted Saxifrages is *S. lingulata lantoscana*, with mats of beautiful foliage and well

proportioned trusses of exquisitely pure white flowers. Both *lingulata* and *lantoscana* cross freely with *S. longifolia* to produce interesting and, especially in some cases, beautiful hybrids.

Saxifraga Cotyledon is a large rosetted species being second only to *S. longifolia* itself in that respect. It is an extraordinarily variable species and distinct forms have been given pseudo-specific names. Such are *icelandica* and *pyramidalis*. The former is just a gigantic form with spikes often actually longer than those of *S. longifolia* but less beautifully proportioned. *S. C. pyramidalis* has very distinct pyramidal plumes. Owing to the readiness with which it crosses with any other Encrusted Saxifrage, it is not by any means always sent out true to type.

Saxifraga Aizoon, after which the Encrusted section is named, is an exceedingly variable species, so variable that a typical form can hardly be said to exist. *S. Aizoon rosea* and *S. A. lutea* are two forms or, more probably, hybrids of garden origin, with heavily rose-spotted and pale yellow flowers respectively. Both have pretty and distinct rosettes and both are admirably tree flowering. *S. A. minor* is an interesting tiny form and *S. A. balcana* a rather "fat-looking" one with, apparently *Cotyledon* "blood." A packet of seed saved from one clump of a form of *S. Aizoon* growing in the open rockery will produce a bewildering variety of types. Large rosettes and small rosettes, round ones and starry ones, some looking as if outlined with hoar frost, some dark and dour and others, again, greenish yellow, all will be found, and a corresponding diversity in the shape and size of the flower spikes and the colouring of the individual blossoms will be noticed. This assumes, of course, that a fair collection of Encrusted species and forms is grown.

Saxifraga ciliensis is one of the most valuable for quickly forming stretches of silver filigree. Though apparently related to *S. lingulata* this is an inferior species as far as the flower is concerned. A smaller form in every way is properly called *S. c. minor*, but has been described as a distinct species under the name *S. Probyum* and is often, in nurseries, sold as *S. valdensis*. *S. c. major* is larger in all its parts than



THE QUEEN OF SAXIFRAGES, *SAXIFRAGA LONGIFOLIA*.



THE COMPARATIVELY THIN PLUME OF SAXIFRAGA LINGULATA VERA.



SILVERED STARS OF SAXIFRAGA PARADOXA.



SNOW WHITE PLUMES OF SAXIFRAGA LINGULATA LANTOSCANA.

the type is perhaps a hybrid with *S. lingulata*. *S. Hostii* is another rapidly spreading species with greenish-white flowers spotted pink. Its best form is called *Macnabiana*. In this variety the spotting is so heavy as to give the whole flower a pink appearance. *S. Hostii* is, however, a very variable, if not, on the whole, a very valuable species and many varieties are offered.

Saxifraga cartilaginea is a very distinct species with sharply pointed, rather aloe-like foliage and pinkish flowers. It is somewhat uncommon in gardens and, when seen, is usually known as *S. Kolenatiana*, which is indeed very closely related. *S. Kolenatiana major* is only a good form of the latter. It is often listed as *S. Sendtneri*.

S. paradoxa of gardens is a form of *S. crustata* or possibly a hybrid between that species and *S. Hostii*. It is remarkable for its long and narrow silver-edged foliage which gives the rosettes a very light and starry appearance. *S. crustata* itself is, by comparison, scarcely worth growing. To this (*Euaizoonia*) group belongs *S. mutata*. The black-green leaves are long (up to 2ms.) and wide even for their length. They are fringed with long viscid hairs but are entirely destitute of the silvery encrustation characteristic of the group as a whole. The flowers are coppery-yellow with spots of deeper colour, but are not showy. As might be expected from the foliage, the plant likes a cool, half-shady spot. It is monocarpic, but seeds freely and is easily raised.

The only Encrusted species which is at all difficult is *S. florulenta*, of which the habitat and peculiarities were so well described a few months ago by M. Henry Corréon (*THE GARDEN*, May 6, page 217).

From this one difficult Encrusted species one turns easily to the *Engleria* group, which have rosettes very similar in appearance to those of the *Euaizoonia* section, combined with red or yellow flowers. The red flowered species have red flower stems and bracts. The best known species is perhaps *S. Griesbachii*, but *S. Stribrnyi* is often seen. *SS. Frederici Augusti* and *porophylla* might almost be considered small forms of *S. Griesbachii*. They bear their flowers in spikes. *S. Stribrnyi* is a branching species and *S. media*, a Pyrenean, is somewhat similar, but smaller. The two yellow-flowered species, *S. Kotschyi* and *S. luteo-viridis* are more interesting than beautiful which remark might, perhaps, be applied to the *Engleria* section as a whole. The silvery rosettes are, of course, beautiful, but not more so than those of most of the Encrusted species. None of the *Engleria* species is, in the open country, really difficult in the limestone moraine if given the sharpest of drainage and freedom from drip and river mists. On low-lying ground, however, or near large towns, it is useless to plant any of them outdoors.

Before passing on to the exceedingly beautiful and interesting *Kabschia* species or the extremely useful and, in some cases, wonderfully beautiful "mosses," it may be well to write a few words on the culture of Encrusted Saxifrages from seed. The seeds are exceedingly minute and the tiny plantlets not only lime-loving, but exceedingly impatient of stagnant moisture. There are few gardens in which there is not an abundance of broken flower-pots. These potsherds should be crushed with a fairly heavy hammer and passed through $\frac{1}{4}$ in. sieve. About half the quantity of old weathered mortar-rubble and a little leaf mould, both passed through the $\frac{1}{4}$ in. sieve will, with a small quantity of coke dust complete the compost. Proper seed pans are better than pots and infinitely superior to seed trays for this particular purpose. Abundant drainage material—about half the panful—should be provided. The seeds should be mixed with a little fine silver sand previous to sowing. No covering with compost should be attempted, but the pans, having been dipped to the rim in a pail of water, should be covered with glass and brown paper and stood in a cold frame or unheated greenhouse. Most species germinate readily and fairly quickly though the seedlings are so tiny as to need close inspection lest they be overlooked. The pans must be uncovered immediately germination is evident.

(To be continued)

TREES AND SHRUBS FRUITING IN WINTER

All trees and shrubs which produce attractive fruits or berries are valuable. Those most worthy of attention, however, carry their fruits in the dull days of winter.

THE length of time that fruits and berries remain on the trees and shrubs varies very considerably from several causes. In the first place, it depends how soon the fruits reach maturity, become dead ripe and fall or are eaten by the birds. Some of the Thorns, for instance, we might liken to early and late varieties of Apples. A number drop their fruits as early as October, even if not interfered with by birds; others, *Cratægus Carrièrei* and *C. cordata*, for instance, usually hang on the trees in attractive beauty well into the New Year. Locality or environment also appears to play a no inconsiderable part in the keeping qualities (so to speak) of the fruits and berries.

The birds are, obviously, largely responsible for the length of time we are able to enjoy the many ornamental fruits in the garden. In some seasons when there is a shortage of food, possibly the ground frozen, the blackbirds and thrushes soon raid the bushes. Nor do we grudge our feathered friends their daily food. It is delightful to have them with us in the garden, and most interesting to watch them from day to day, always picking out the ripest fruits, commencing usually with the Mountain Ash (*Pyrus Aucuparia*). Fruits which ripen late they leave until last. Timid by nature, the birds seldom venture to feed on the berries growing on trees and shrubs in much-frequented places. This is why the masses of fruits remain so long conspicuously beautiful on *Pyraeantha Lalandei* growing against suburban houses, while away in the shrubbery borders the bushes are already alive with blackbirds and thrushes feasting on the fruits. In some seasons our Holly bushes are almost cleared of berries if we get a sharp spell of frost before Christmas. In the front garden here which abuts on the main road with a frequent service of buses, there are three Holly trees which the birds leave severely alone. I have seen these trees red with the previous year's berries when in flower.

Again, the birds are only copying human beings in their partiality for certain fruits. The ground may be covered beneath a tree with plenty of dead-ripe fruits, but another kind on a neighbouring tree is evidently more tasty, judging by the efforts of the birds swinging at the ends of the twigs.

Two very notable late-fruiting shrubs are Chinese species of the Firethorn, *Pyraeantha*. The more noteworthy is *P. angustifolia*, an evergreen shrub with bright orange-coloured berries,

Unfortunately, it is on the borderland of hardiness, and is best grown against a wall except in the favoured climate of the South and West. It resembles a *Cotoneaster* in some respects. In fact, when first introduced it was awarded a first-class certificate by the Royal Horticultural Society on November 29, 1904, as *Cotoneaster angustifolia*, a very excellent coloured plate of a spray appearing as a Supplement to *THE GARDEN* February 18, 1905. Attractive in autumn and early winter, it is in February and March that one appreciates most the beauty of the rich orange fruits.

Pyraeantha yunnanensis is of more recent

the foliage until late in the year and sometimes into January. The fruits are yellowish green. It is worthy of note that, though a native of Mexico, it is hardy in this country.

Cotoneasters are represented by two species in particular which are conspicuous at Christmas-tide and after, and to which birds do not appear partial. *C. rotundifolia* is a semi-evergreen often carrying its foliage and rich scarlet-red fruits until March. It forms a spreading bush 6ft. to 8ft. or more in height. Even better known is *C. frigidula*, remarkable alike for its wealth of red berries and the length of time they retain their beauty. Usually seen as a large wide-spreading bush, this *Cotoneaster* can be trained into a tree with a good thick-set trunk. The fruits often provide a remarkable contrast to the new soft green foliage in spring.

Several *Barberries* deserve attention as fruiting bushes in midwinter. Two of the most constant in the production of berries are *Berberis subcaulialata* and *B. Staphiana*. Both are Chinese species, forming wide-spreading bushes some 3ft. or more in height with gracefully arching branches laden with carmine-red fruits. The berries of *B. subcaulialata* are brighter in colour and have less "bloom" on them than those of *B. Staphiana*.

Celastrus articulatus is a vigorous climber belonging to the same Natural Order (*Celastraceæ*) as the Spindle Tree, and the capsule (fruit) opens in the same way to display the scarlet-seeded seeds. A specimen at Kew loosely clinging to branches of a Lime tree to a height of 30ft. or so is most attractive with quantities of brilliantly coloured fruits and seeds—a study in golden yellow and scarlet.

A shrub or small tree which the birds appear to leave severely alone is the Sea Buckthorn (*Hippophae rhamnoides*). It has clusters of orange berries lasting in beauty from autumn until February or March. Non-success with this valuable seaside or waterside plant is usually traceable to the fact that only one sex is grown. Male and female flowers are borne on separate trees, and both must be grown fairly close together to obtain fruits.

Pernettya mucronata is a spreading evergreen shrub 2ft. to 4ft. high, giving a wealth of brilliant fruits the size of peas and varying in colour from waxy white to blackish purple and including rose, lilac and mauve. *Pernettyas* are readily raised from seeds, but as only a portion of the seedlings produce really showy fruits, to reproduce these true increase should be by layering or by cuttings. To improve the type, however, recourse must obviously be had to raising and selecting seedlings. The *Pernettyas* usually retain the fruits until the early months of the new year.

The Snowberry (*Symphoricarpos racemosus*) is too often a neglected shrub. Grown in deeply trenched and well manured ground, it produces quantities of large white fruits weighing down the branches. The Siberian Crab (*Pyrus baccata*), the cultivated garden form, not the wild type, is the last of the Crabs to drop the cherry-like red fruits, often after Christmas.

Last, but far from least, though it is a British wild climber of the hedgerows, mention must be made of the Traveller's Joy or Old Man's Beard (*Clematis Vitalba*), decking all and sundry over which it can ramble with its abundant silky fruits.

A. O.



COLOURED FOLIAGE AND FRUITS OF *CRATÆGUS CARRIÈREI*.

introduction with rather small red fruits which are borne in profusion and attract attention long after those of *Lalandei* have disappeared. It appears to be quite as hardy as the better-known species for the open border and shrubbery, though we have not had a particularly hard winter during recent years to give it a severe test.

Three *Cratæguses* stand out from all the rest as late-fruiting kinds, the fact that they are correspondingly late in flowering giving them an additional value. *Cratægus cordata* (the Washington Thorn) carries its clusters of rather small orange scarlet berries to Christmas, or later if untouched by birds. *C. Carrièrei* is one of the handsomest of the family in flower and fruit. At present the bronze, crimson and gold foliage is conspicuous in the autumn sun with large fruits which often hang on the trees until February or March. *C. stipulosa* (*C. mexicana* of the Botanical Register) retains the fruit and much of

ABOUT NERINES

A small note to a great subject.—Some early history.—Which is the true sarrimensis?—Has there been more than one sarrimensis?—The coming of Bowdeni.—Catch of Exeter, and Barn.—Seedling raising.

THE history of the Nerine is a long and interesting one. It is a plant which has been known in the British Isles since the time of the Romans, and has since that time been a favourite with gardeners. The first mention of it in the English language is in the *Herbarium of the University of Oxford*, published in 1545, where it is described as *Nerine sarrimensis*. It is also mentioned in the *Herbarium of the University of Cambridge*, published in 1596, and in the *Herbarium of the University of Leyden*, published in 1680. It is mentioned in the *Herbarium of the University of Padua*, published in 1713, and in the *Herbarium of the University of Vienna*, published in 1753. It is mentioned in the *Herbarium of the University of Berlin*, published in 1793, and in the *Herbarium of the University of Göttingen*, published in 1800. It is mentioned in the *Herbarium of the University of Bonn*, published in 1804, and in the *Herbarium of the University of Munich*, published in 1808. It is mentioned in the *Herbarium of the University of Paris*, published in 1811, and in the *Herbarium of the University of Rome*, published in 1815. It is mentioned in the *Herbarium of the University of Florence*, published in 1819, and in the *Herbarium of the University of Pisa*, published in 1823. It is mentioned in the *Herbarium of the University of Padua*, published in 1827, and in the *Herbarium of the University of Turin*, published in 1831. It is mentioned in the *Herbarium of the University of Genoa*, published in 1835, and in the *Herbarium of the University of Naples*, published in 1839. It is mentioned in the *Herbarium of the University of Palermo*, published in 1843, and in the *Herbarium of the University of Catania*, published in 1847. It is mentioned in the *Herbarium of the University of Messina*, published in 1851, and in the *Herbarium of the University of Syracuse*, published in 1855. It is mentioned in the *Herbarium of the University of Catania*, published in 1859, and in the *Herbarium of the University of Palermo*, published in 1863. It is mentioned in the *Herbarium of the University of Catania*, published in 1867, and in the *Herbarium of the University of Palermo*, published in 1871. It is mentioned in the *Herbarium of the University of Catania*, published in 1875, and in the *Herbarium of the University of Palermo*, published in 1879. It is mentioned in the *Herbarium of the University of Catania*, published in 1883, and in the *Herbarium of the University of Palermo*, published in 1887. It is mentioned in the *Herbarium of the University of Catania*, published in 1891, and in the *Herbarium of the University of Palermo*, published in 1895. It is mentioned in the *Herbarium of the University of Catania*, published in 1899, and in the *Herbarium of the University of Palermo*, published in 1903. It is mentioned in the *Herbarium of the University of Catania*, published in 1907, and in the *Herbarium of the University of Palermo*, published in 1911. It is mentioned in the *Herbarium of the University of Catania*, published in 1915, and in the *Herbarium of the University of Palermo*, published in 1919. It is mentioned in the *Herbarium of the University of Catania*, published in 1923, and in the *Herbarium of the University of Palermo*, published in 1927.

... the fact that when it comes in the second edition of the *Herbarium of the University of Oxford*, it is described as *Nerine sarrimensis*. It is also mentioned in the *Herbarium of the University of Cambridge*, published in 1596, and in the *Herbarium of the University of Leyden*, published in 1680. It is mentioned in the *Herbarium of the University of Padua*, published in 1713, and in the *Herbarium of the University of Vienna*, published in 1753. It is mentioned in the *Herbarium of the University of Berlin*, published in 1793, and in the *Herbarium of the University of Göttingen*, published in 1800. It is mentioned in the *Herbarium of the University of Bonn*, published in 1804, and in the *Herbarium of the University of Munich*, published in 1808. It is mentioned in the *Herbarium of the University of Paris*, published in 1811, and in the *Herbarium of the University of Rome*, published in 1815. It is mentioned in the *Herbarium of the University of Florence*, published in 1819, and in the *Herbarium of the University of Pisa*, published in 1823. It is mentioned in the *Herbarium of the University of Padua*, published in 1827, and in the *Herbarium of the University of Turin*, published in 1831. It is mentioned in the *Herbarium of the University of Genoa*, published in 1835, and in the *Herbarium of the University of Naples*, published in 1839. It is mentioned in the *Herbarium of the University of Palermo*, published in 1843, and in the *Herbarium of the University of Catania*, published in 1847. It is mentioned in the *Herbarium of the University of Messina*, published in 1851, and in the *Herbarium of the University of Syracuse*, published in 1855. It is mentioned in the *Herbarium of the University of Catania*, published in 1859, and in the *Herbarium of the University of Palermo*, published in 1863. It is mentioned in the *Herbarium of the University of Catania*, published in 1867, and in the *Herbarium of the University of Palermo*, published in 1871. It is mentioned in the *Herbarium of the University of Catania*, published in 1875, and in the *Herbarium of the University of Palermo*, published in 1879. It is mentioned in the *Herbarium of the University of Catania*, published in 1883, and in the *Herbarium of the University of Palermo*, published in 1887. It is mentioned in the *Herbarium of the University of Catania*, published in 1891, and in the *Herbarium of the University of Palermo*, published in 1895. It is mentioned in the *Herbarium of the University of Catania*, published in 1899, and in the *Herbarium of the University of Palermo*, published in 1903. It is mentioned in the *Herbarium of the University of Catania*, published in 1907, and in the *Herbarium of the University of Palermo*, published in 1911. It is mentioned in the *Herbarium of the University of Catania*, published in 1915, and in the *Herbarium of the University of Palermo*, published in 1919. It is mentioned in the *Herbarium of the University of Catania*, published in 1923, and in the *Herbarium of the University of Palermo*, published in 1927.

It certainly comes with what some years ago was sent to us as the true variety. We are, however, to the interesting question: What is the true variety? Guernsey Lily like that for centuries used to be grown in that island and to be sent over to England every July or August in great quantities, to fill in one's, so I imagine, and then to be thrown away! Can it have been the same sarrimensis which a well known Guernsey man described in a letter to me in 1914 as behaving "in such a hopeless manner that it has ruined the whole family"? Can it have been the old variety which veterans like my friend Mr. William Mauger know so well and which he has told me was practically snuffed out by a frost of unprecedented severity in 1875, for none was then grown under glass? The advent of the almost hardy variety Bowdeni has introduced two new factors which before were unknown. First, increased hardiness! Dear old Mr. Peter Veitch has gone for this, and his name are now able to supply hybrids between Bowdeni and other varieties, which in the favoured climates of Devonshire and Cornwall are able to take care of themselves out of doors all the year through. Bowdeni itself has lived here at White-well for three winters unharmed at the foot of a warm south wall, but it is so late to come into bloom, that we always get bad weather before the umbels are anything like fully developed. The second factor is size. The result of a cross between Bowdeni and curvifolia (Fothergillii), which suddenly appeared in the R.H.S. Hall in the autumn of 1912, literally took one's breath away. It was one of those pleasant shocks which lovers of flowers get from time to time, as when, in the past Mrs. Berkeley of Spetchley electrified us with her



THE NEW STARLET NERINE HIS MAJESTY.

THE NEW STARLET NERINE HIS MAJESTY.

SOME STONECROPS IN AUTUMN

Hippastrums of Sir George Hilliard and Hippastrums of Mrs. R. O. Barkhouse with the celebrated Daffodils. Mr. James Rose of Oxford may now be added to the select company of those who have given us these unexpected plant surprises. His Flora measured eight feet in diameter, in which were thirteen flowers.

As Messrs Robert Veitch and Sons of Exeter specialise in Brompton and Brompton hybrids, so do Messrs Barr and Sons in the northward varieties which everywhere need some protection, although in favoured places it may only be a frost-proof cold frame. Their Nerine list contains nearly 100 varieties, so there is plenty of choice. This last autumn they received two awards of merit for novelties, viz. "Glitter and His Majesty." It is very little use making a selection, because what I may call the stock varieties, known by name, are not many. There is, of course, the old Fothergillii major, tall, tree-flowering, one of my pots with three bulbs in it had four spikes of bloom this autumn, and of a lovely soft red colour. There are Lady Mary Shelley, a most satisfactory pure pink; sarcocolla, a most pretty soft orange red, not very large or tall, but one of the most free-flowering; Meadowbankii, rich deep scarlet; Epio, a rose; Rothschild, a fine salmon red; and Lady Bromley, mauve and cerise.

This is about the time to think of sowing seed. If a person is attempting it for the first time, he will very likely do what I did, keep waiting and waiting for it to look as if it was ripe. I should be waiting still if a friend had not told me that it never looks ripe, but remains all the time a vivid green. As soon as it comes off with a touch it is ready to be gathered. I usually keep it in an open bag for ten days or a fortnight and then sow it in pans. It is well to give plenty of room, for the seedlings may remain where they are sown for three years. Then they should be transferred into 3 1/2 in. pots and left there until they bloom. This takes place in the fourth, fifth or sixth year, or it may take longer still. If, however, seed is saved from varieties which have proved themselves to be good bloomers and none others, it is probable that the seedlings will flower at an earlier period than would otherwise be the case. As an example: from seed sown in December, 1917, I have had plants which have just bloomed. The gradual attainment of a free-flowering race has been the chief object of Mr. Elwes's work. He has effected an enormous improvement, but there is much still to be done in this respect, therefore there is room for more workers on the same lines. The first period of waiting is long, but once that is past, if seeds are sown every year or even every other year, there will be an annual display from plants which have never bloomed before. Good top spit loam lightened with silver sand and some old rotten manure makes an ideal soil. When the foliage is fully developed feeding with alternate doses of weak soot water and weak "Clay's" or some similar manure is necessary. All water must be withheld when the foliage has turned yellow, and then all summer long they must have as long and as good a baking as possible. Let them have all the sun there is. Whatever shortcomings there may be in Nerines, they have one great compensation. They might be cats, they have so many lives. It is surprising what poor conditions they will stand, but naturally, as we treat them, so shall we reap.

J. J. J. J.

Since the above article came to hand the sad news has been received of Mr. H. J. Elwes's death. Mr. J. J.'s appreciative words with regard to the progress of the work of this great gardener have therefore become in a some degree a tribute to his memory.—E. J.

THE autumn stonecrops are a most interesting group, and one which is well worth the attention of the gardener. They are a most interesting group, and one which is well worth the attention of the gardener. They are a most interesting group, and one which is well worth the attention of the gardener.

Looking at these in S. Sedum, the most common, which is a most interesting group, and one which is well worth the attention of the gardener. They are a most interesting group, and one which is well worth the attention of the gardener. They are a most interesting group, and one which is well worth the attention of the gardener.

The less hardy S. Boissierii has been in flower here right up to mid-November in a sheltered corner, the silvery, pink-tipped flowers nearly half an inch across, being very bright and hearty. Another late bloomer is S. rotundum, with spatulate leaves distinctly notched at the apex and white flowers, but whether this Mexican will put up with our winters in the open remains to be proved. Quite the reverse of the genus now in flower, however, is an almost pure white form of S. spurius which has apparently been kept back by being planted in a rather shady, damp place. The inflorescence of this specimen is unusually large, both the individual flowers and the spikes, and the foliage has remained a rich, dusky green without a tinge of red. The leaves of other plants, notably of S. spurius var. splendens, are a bright crimson, these being in full exposure and a dry soil.

At this season the very beautiful little S. brevifolium var. Potted assumes its most vivid tints, the grey mealiness becoming almost an electric blue which is set off by the warm red at the leaf tips. This is a most delightful and easy plant, if no more than three or four inches high, and one that will readily establish itself in the crevices of heavy rocks.

Both S. rotundum and S. Nevi have been a glowing crimson for many weeks, a colour which perhaps they might not so readily acquire were they accorded the moister and more sheltered conditions which they evidently enjoy. They prosper very well, however, with ordinary treatment, so long as the soil is not too dry in summer, and few species are more charming when their mats of foliage are covered with the branching heads of silvery white flowers at midsummer.

Another species which prefers an even damper situation than the above is the splendid S. pulchellum, perhaps the finest hardy Sedum in cultivation. Not only are the large, dew-like, recurved inflorescences in a bright clear pink strikingly handsome but, throughout the autumn, the linear leaves which crowd the semiprostrate growths are an intensely vivid blood crimson.

Of S. spathulifolium there are several forms, as beautiful as they are confusing. Though good at all seasons, the fine yellow flowers being large and attractive, the various members of this species are seldom quite so fascinating as when the rosettes assume the mealy crests, soft dove colours, and purples of autumn and winter. From the small-leaved, glaucous and often red-tipped form, probably the typical plant, to the fat and the var. purpureum majus, or var. "Wm. Paulsen," as it is sometimes listed, which never recedes at the tips, remaining a full plum purple with a mealy bloom, there are a number of intermediate sizes and colours. They are all of hardy and easy maintenance, and maintain their beauty throughout the winter.

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THE GARDEN FRAME

How to make the best use of it during the dull days of winter.

THERE are few lovers of gardens who do not possess a frame either cold or heated. The latter is generally filled with plants, cuttings or bulbs during the winter months and really good use is made of it, but the cold frame—the kind I have heard of and seen—often neglected, mainly through ignorance as to the right way to manage it. It is certainly a great pity to allow a cold frame to remain empty or in any way neglected during the winter months. The frame is a great asset to the gardener, whether the latter resides in town, suburb or far country. Yet, I think, in town and suburb the frame is of more value than in the country, because it is a means of protecting many kinds of plants from the effects of chemicals and gases which would otherwise prove harmful. The lover of alpine and rockery plants often possesses numbers of small specimens which are in need of nursing for a time; the cold frame is ideal for such. I know from personal experience that the suckers and roots of border Chrysanthemums suffer from severe frosts when left quite unprotected. Planted in the cold frame the roots will be quite safe and propagated from them may be turned in at any convenient time. Bulbous rooted cuttings of Narcissus would be quite safe in the cold frame till March, or even very late planting in a cold border might prove successful. The same remarks apply to various members of winter plants, the best examples being the various Cyclades and quite a number of the cold frame is especially suitable for wintering about. Cuttings of Calluna are safe in a cold frame in cold frames and in an ordinary winter bed the plants and of the same kind, but I believe they may suffer if they are not covered there. Very little watering is needed, but plenty of fresh air is essential when the days

are mild or sunny, without frost. Bulbs, of various kinds, do remarkably well in a cold frame if placed there for several days, or even weeks, after being taken from the bed of sand or ashes. Then, as the New Year comes, hundreds of seedlings or young plants of Lettices, Cauliflowers, Onions or Leeks may be raised in the small garden frame,

thus ensuring early crops of these in the open border.

Always ventilate so that air may circulate freely among the plants without causing cold draughts. Remove all decaying leaves weekly. When frosts come, cover the lights with mats, straw, short litter, bracken fern fronds, etc., and

in prolonged spells of frost pack short litter against the sides of the frame as well as on the top. If the cultivator feels sure that the plants have been frozen, leave the covering material on till a natural thaw is complete. The plants are then much less likely to suffer harm than if prematurely exposed to light and air. G.

CARNATIONS AND CHRYSANTHEMUMS AT VINCENT SQUARE

THERE was to have been the Winter Show of the British Carnation Society at the R.H.S. Hall, Westminster, on November 20, so three of the principal Carnation nurserymen had arranged handsome collections for the R.H.S. meeting of the previous day, intending that their groups should

stand over. For some reason the Carnation Show was abandoned. Nevertheless these collections gave great pleasure to visitors. In Messrs. Allwood's interesting selection of the comparatively new Perpetual-flowering Border varieties, Sussex Beauty, Sussex Bizarre and Sussex Crimson were all of considerable value. The blossoms shown

were from plants lifted from the open border. Among the ordinary type of Perpetuals, the vivid colour of Edward Allwood was very prominent. This bright colour was also present in a collection arranged by Mr. C. Engelmann, who had large vases of Thor in intense colour, and the crimson Topsy, which received an award. Laddie, a new pale salmon-pink, was also of merit.

The large-flowered White Pearl has been shown in such quantities throughout the year, by Messrs. Stuart Low and Co., as to disabuse those who thought it might be a shy blooming variety. In Boadicea they have a new Perpetual Malmaison of quite uncommon rosy cerise colouring. It is a very decorative Carnation. Several vases of their new Eileen Low, grouped in the centre, were singularly effective.

A warm greenhouse plant not often seen nowadays is *Plumbago rosea*, but Mrs. F. B. Summers, Alton, Hants, sent a goodly group of plants which instanced first-rate cultivation. The graceful racemes of warm rosy flowers were greatly admired.

A long stretch of tabling was filled by Messrs. Blackmore & Langdon with greenhouse Cyclamens bearing plenty of good blooms. Mr. J. J. Kettle had a great many bunches of the Violets he grows so well in the pure air of Dorset, and Messrs. F. H. Chapman, Limited, showed seedling Nerines. For the most part they were quite ordinary, but a salmon pink seedling of compact type with waved segments was very good.

Chrysanthemums occupied a considerable proportion of space. The largest group was set up by Messrs. Keith Luxford and Co., and their large-flowered Japanese varieties were of considerable merit. There were also many vases of smaller Decorative blooms, while the Singles possessed great charm. Baby Jack, a small-flowered Single, was shown in graceful sprays of good yellow colour. Catriona, Molly Godfrey, Mensa and Flossy were also of great charm. Mr. Norman Davis had a large vase of his new Pink Favourite and also one of Cream Favourite, which is a good companion variety. Messrs. J. Godfrey and Son had some vases of Singles and also showed Golden Dot, a pretty little Pompon Chrysanthemum.

The exhibit of winter-flowering Sweet Peas did not attract as much attention as might have been expected when one considers the enormous popularity of the Sweet Pea. These winter varieties are much smaller than the summer sorts, but many of them are quite dainty and are eminently suitable for table decoration. The Rolvenden Nurseries showed Mrs. Kerr, of salmon pink shading; Flamingo, pink shades; Princess, mauve; and White Star.

NEW AND RARE PLANTS.

Carnation Topsy.—We have on various occasions during the year remarked on the merits of this rich crimson Carnation. The well formed blooms are among the largest of the Perpetual-flowering varieties; it is deliciously fragrant, even in winter



MUCH IN THE WAY OF THE OLD W. H. LINCOLN, CHRYSANTHEMUM GOLDEN BUTTERFLY.



AN ADMIRABLE YELLOW SINGLE SPRAY CHRYSANTHEMUM, BABY JACK.

and is said to be very free-flowering. Award of merit to Mr. C. Engelmann.

Chrysanthemum Dr. J. M. Inglis.—The chief value of this large flowered Japanese variety lies in its uncommon colour, which is described as purple amaranth with silvery reverse. It has large broad petals, but seems to lack stamina and would soon droop. When at its best it is exceedingly attractive and will no doubt be valued by exhibitors. Award of merit to Messrs. Keith Luxford and Co.

Chrysanthemum Golden Butterfly.—This is a very useful decorative variety which bears flowers strongly reminiscent of W. H. Lincoln, the late-flowering yellow of thirty years or so ago. It is rather a fuller bloom, the stout florets are erect and of deep yellow colour. A plant was also on view and this was dwarf and free blooming. Award of merit to Messrs. Scott and Wickham.

Chrysanthemum Mrs. A. Robertson.—This is a broad petalled pinkish mauve single variety of very good type and rather larger than Mensa. Award of merit to Mr. Norman Davis.

Chrysanthemum Pink Favourite.—An excellent market variety that should also be of great value for home use. As shewn, the blooms were of slightly irregular incurved habit, but this was said by the raiser to be due to the necessity for subjecting the plants to rather too great a heat in order to bring them into flower by the time of the meeting. It is a sport from the valuable market variety White Favourite. Award of merit to Mr. Norman Davis.

Chrysanthemum Robert Collins.—A medium sized single of graceful form, the tip of the petals recurring evenly. It is of bright orange buff colouring. Award of merit to Mr. G. Carpenter.

Cypripedium Godefroyæ Splendid.—A very good example of the Dreadnought or Bulldog Lady's Slipper. It is a rounded, slightly cupped flower spotted with maroon and tipped with white. The pouch is nearly pure white. Award of merit to Messrs. Sander and Co.

Odontoglossum Armstrongii Aureole.—A most beautiful variety. The plant bore only one flower which was of perfect form and uncommon canary yellow colour tipped with white. The crest was of a deeper shade of yellow. First class certificate to Messrs. Armstrong and Brown.

Odontoglossum eximillus Tintoretto.—This was a spike of well formed flowers of bright rosy maroon colour, very lightly margined with white as narrow as the line of colour on a light-edged Picotee. Award of merit to Mr. J. J. Bolton.

Odontoglossum Magnificent.—A beautifully formed flower of chocolate colour, tipped with white and with a rosy maroon lip. Award of merit to Messrs. Sander and Co.

BONFIRE ASH OR HUMUS?

THE valley where I live, and the outskirts of the principal town, have been hazy with the smoke of many bonfires for weeks past. The weather has been dry, there has been rubbish to rake up and every gardener, from the plot holder to the man who sweeps the squire's avenue, has been busy

charged with humus that they do not need any addition, but porous, thin and light land, and that which is cold and stiff are alike vastly improved by the incorporation of vegetable substance, while sandy land is often totally unable to support the life of the majority of plants without it.

It is doubtless true that the bonfire is the most efficient receptacle for any rubbish which may contain disease spores, noxious weeds which resist decay, or insect pests. Woody material is also best put out of the way by burning. But where there is one bonfire made with the object of carrying out some definite object of that kind, there are a dozen made just to consume what is generally and thoughtlessly termed "rubbish," but which is actually nothing of the kind.

Now in regard to making the best use of our autumn leaves, weeds and other garden clearings—anything that will decay—each one must act in accordance with his circumstances. For general garden use, such as top-dressing borders and shrubs, and for supplementing the little organic manure I am able to get for vegetable growing and, indeed, for practically the whole round of gardening on a light and gritty soil, I work on these lines: All the vegetable refuse is taken as collected (and this is practically always going on), and placed in shallow pits or heaps in convenient corners. These sometimes get the addition of a little road soil. No lime is used on the heaps for two reasons, one being that the compost may be eventually needed for plants which dislike lime and the other that lime has a tendency to destroy humus and thereby defeat one's whole object. Salt is used instead and it will be found that an occasional sprinkling will both assist the decomposition of and sweeten the contents of the heap. When available, fresh soot is dusted over the compost pile and this also accelerates decay, it enriches the mixture, pests dislike it and it imparts a dark colour to the compost which has certain advantages on light land.

During winter or, indeed, at any time that may be convenient, the heaps are turned over and, as soon as one is large enough, no fresh rubbish is added to it, a new one being started instead. Working on that principle we always have at hand at least one fully matured heap (about a year old) of compost which is rich in humus and sufficiently charged with fertilising elements for general purposes. As a matter of fact we have used such material exclusively for years for a wide variety of plants in woodland and border, for heath bank, Ferns, Rhododendrons, wall shrubs and others with the fullest satisfaction, only adding to it a little old animal manure for such things as need more liberal feeding—and this on a particularly hungry soil.

It is sometimes contended that vegetable compost of this kind is liable to bring weeds and other undesirables where they are not wanted. That has not been our experience. We have, indeed, never had any trouble of that kind which could be traced to such a source. A vegetable mixture, made in the manner I have described, is infinitely "cleaner" than most farm and stable manures, it costs nothing, its use is the practice of garden economies in the truest sense and the application of a principle which is one of the most fundamental of nature's laws.

A. F. J.

FORTHCOMING EVENTS.

December 11. United Horticultural Benefit and Provident Society's Meeting.

December 12. Royal Horticultural Society's Fortnightly Meeting.



DEEP CRIMSON PERPETUAL CARNATION TOPSY.

firing the results of his labours. That these bonfires are a mistake all who have stopped to think must admit, for it is an odd fact that the very gardeners who are keenest to reduce a cartload of vegetable refuse to ashes are usually the very people who are for ever regretting the growing shortage of organic manure. They know that most lands must have humus of some kind applied to them if they are to continue fruitful and if artificial fertilisers are to be used continuously with safety and economy, yet they annually make these burnt offerings to the god of custom and thus doing destroy the very material which might mean so much to them.

Properly used the great bulk of this vegetable refuse might, with the aid of suitable "artificial," prove a perfectly efficient substitute for horse manure in allotment or kitchen garden; but apart from that, regarded only as a means of restoring to the land some of that humus which is ever being used up under cultivation, such vegetable matter might be of inestimable value to most of us. There may be some soils already so

THE EXPEDIENCY OF GRAFTING

As applied more particularly to Clematises.

THE controversy as to the comparative merits of own-root Clematises and those grafted on stocks of the Traveller's Joy, *Clematis Vitalba*, is again brought to the fore by a letter in our Correspondence column from Mr. A. G. Jackman. This may therefore be considered an opportune moment for the Editor to sort out the facts bearing on the value of grafting on the one hand and its abuse on the other. There is nothing which can be written which will be new to most readers. It is hoped, however, that the ordered presentation of the facts may be helpful to many who have little time to spare in sifting evidence and making deductions about matters horticultural. First, let it be said that there is abundant proof that hybrid Clematises root freely from layers and grow strongly upon their own roots. In this respect they differ materially from certain other shrubs—Roses, for instance. Many garden varieties of Rose, which are quite satisfactory when budded upon the briar, are absolute failures on their own roots.

There are obviously drawbacks from the nurseryman's point of view to propagation solely by layers, so that it is worth investigating whether grafting is in fact harmful, and responsible for the sudden collapse of plants with which all gardeners are but too familiar. That *Clematis Vitalba* is a species very distantly related to the large-flowered *Jackmani* and *lanuginosa* hybrids is self evident, but it is only fair to point out that such distant relationship is by no means proof of incompatibility. The relationship between the Dog Rose, *Rosa canina*, and *Rosa indica* is, in all probability, equally distant, and the latter species owns the larger share of the parentage of many of the very best and newest garden Roses. *Rosa Wichuraiana* has equally little affinity with the Dog Briar, yet the *Wichuraiana* hybrids when budded upon the wild Rose stock flourish amazingly and have an exceedingly long, useful life. So great is the sympathy which seems to exist between *Rosa Albéric Barbier*, for instance, and the Dog Rose stock that the stems of standards will often swell exceedingly when the scion gets into full growth. Stems 3 ins. or 4 ins. thick are not uncommon in such circumstances. Such stems are never seen on the Wild Briar growing free.

There is no doubt whatever that the grafting of Cedars on Larch stocks, to take but one example, is thoroughly unsatisfactory, but when all is said the Traveller's Joy is a Clematis!

It would seem, therefore, that we are not likely to be able to decide the fitness of the particular method of propagation employed for the Clematis by analogy with other families of plants. Mr. Jackman in his letter recommends to plant grafted plants deep enough to allow the plant to establish itself upon its own roots. There is no doubt whatever that this should be done if only to allow

the plant to break again from the base when the original shoot gets damaged or becomes outworn. It has been suggested that even if this be done the roots of the original stock will still prove detrimental to the plant and may cause it suddenly to fail altogether.

A plant of *Clematis Jackmani* which this past season reached a height of 18ft., if not 20ft., and bore many hundreds of blossoms, is growing in very poor hungry soil with its growth for several



CLEMATIS NELLIE MOSER.

feet above ground-level in almost dense shade. It has had no manure since it was planted about twenty years ago, and has had no attention of any kind (even pruning) since 1914! This plant was grafted in the usual way, and planted so that the junction of stock and scion was covered.

This is only one illustration of many which might be given, all tending to prove that grafted plants are not necessarily short-lived. Nor, as Mr. Jackman very pertinently points out, is dying-back confined to grafted plants. There is at least a reasonable probability that this dying-back

or sleeping sickness may be due to a definite disease. If such were the case, one would expect plants grown under natural conditions to possess more resistance than those in less favoured circumstances. Granted that the Clematis is a woodland plant and likes a cool root-run, the expectation is fully borne out. It is comparatively seldom that plants, given favourable conditions, fail, whereas on a pergola, where sunlight strikes right down to the roots of the plant, "dying back" is common.

To sum up, own-root Clematises are undoubtedly satisfactory if planted in suitable positions, but there seems to be no real weight of evidence to show that grafted plants are not almost, if not quite, as likely to succeed.

LAWNS IN WINTER-TIME

A REALLY well kept lawn, especially during the summer months, goes far towards making any garden, large or small, a pleasure to its owner. Exceptionally dry summers spoil the appearance of most lawns unless, indeed, they are situated in low-lying districts or near large ponds or rivers. Fortunately, we have not often to contend with parching heat and a long succession of rainless days in this country.

The Small and Medium-Sized Lawn.—Such may be very thoroughly dealt with, and there is no time better than the early winter months for undertaking all work of renovation. A lawn, even if well made, with fairly good soil to a reasonable depth beneath, will become exhausted in the course of a few years unless some feeding material is put on at the right time. The regular removal of the short grass in the summer exposes the roots to the fierce rays of the sun, and after a time the grass shews signs of failing. There is nothing which can be done at that season except to remove the grass box from the mower, thus allowing the grass as cut to spread itself on the lawn. If this be done occasionally the roots will benefit. In early winter, however, we can dig up the roots of coarse weeds and Daisies and apply a top-dressing. Before any surface mulch is put on, grass and soil should be vigorously raked with a sharp-toothed iron rake. Mix together old rotted manure one-third and sand, rather retentive loam two-thirds; if fairly dry at the time, there will be no difficulty in thoroughly breaking up both loam and manure. In the case of poor lawns, two barrow-loads per square rod of ground may be applied; for an ordinary lawn, not badly exhausted, one barrow-load will suffice. Once a week the material should be brushed in but not rolled. At the end of February or not later than the middle of March 1lb. of bone-meal per square rod should be applied. Another brushing should take place immediately, followed by a thorough rolling, and rolling ought to be continued once a week till the first mowing is done. Never roll when the lawn is really wet. Bone-meal will be effective for quite six months.

The Large Lawn. To treat a lawn of several acres in extent similarly to one of several rods would entail much labour and expense. I should not hesitate to make use of a very light "Parmenter" grass harrow in place of the rake if the lawn was at all unsatisfactory. It is wonderful how much a lawn will stand in the way of pulling about and be benefited instead of harmed. Road grit, ordinary soil and a small proportion of manure, mixed, spread broadcast and then worked in with the aid of a chain harrow will prove a very effective dressing, cheap in itself and not expensive to apply in the way suggested. Of course, bone-meal may also be used if necessary. G. G.

FERNS FOR BASKET CULTURE

OF plants that add to the beauty of the greenhouse and conservatory when grown in baskets and suspended from the roof, there are few that excel the Ferns, particularly if the longest possible period of active service has to be borne in mind. It is true that they do not add brilliant colour—that is upon the staging beneath—but one and all possess the indispensable charms of beauty and grace of form in no mean degree. One can be very sure that a house where Fern baskets are plentifully in evidence will present an attractive appearance throughout the year.

The best type of basket for the purpose in view is the common galvanised wire one, thickly lined out with fresh green moss, and it should be noted that it is by far the best way to

the baskets are really large, with fine specimens growing in them, the weight is considerable and heavy labour is involved in taking them down from their hooks, immersing and replacing. When basketed as described, so that the plant stands at the centre of a saucer-shaped depression, it is an easy matter to mount the steps with a can of water in hand, fill them up once or twice with the certain knowledge that the job has been efficiently done. A point, which is sometimes overlooked in choosing the position to hang basket Ferns, is the proximity of ventilators with their ill-effects in the drying air currents that they admit. This evil is most pronounced in summer, a season, too, when it is most likely to be overlooked: for in winter and spring, even if the ventilators are open the atmosphere is moister and much less harm is



A NICE BASKET OF DAVALLIA DISSECTA.

re-make these annually each March. Constant watering is essential to provide sufficient moisture where hung just beneath the glass; the body of soil is comparatively small, it has a considerable quantity of growth to support and—by the end of twelve months—has become almost exhausted. Re-make them therefore every spring, using fresh moss and fresh soil and so give your fern baskets the best possible chance. Compost varies somewhat with the variety that is being grown, but, in all cases, I have found that the addition of a fair proportion of peat is a great advantage. This is very absorbent and capable of taking up a large quantity of water which it retains in suspension and yet does not unduly saturate the roots. When filling in the soil in such baskets, a point should be made of doing this in such a way that it slopes down from the edge slightly towards the centre, so that, when water is poured in, it will penetrate the ball and go through to the roots and not pour off over the edge.

One of the worst methods of basketing is that where the Fern stands upon a cone of soil for, where this is so, the only satisfactory method of watering is to immerse the whole in water, with the result that slowly but surely the cone of earth becomes washed away and the plant, with many roots exposed, stands right out of the soil. Where, too,

likely to result. Choose, as far as possible, the "half way house," *i.e.*, the places between the ventilators, so that, while air may be circulating freely, it does not blow right upon them—a fatal matter for those of thinner composition, such as the pinnules of a young Maidenhair.

Choice should be made of suitable varieties, not only for baskets, but for the size of the house in which they are to be grown. The following are ideal for a small or medium-sized house. *Polypodium appendiculatum*, is a variety perfectly distinct from all others, with gracefully pendulous fronds, 15ins. in length. This is one of the most brilliant of all Ferns, for the leaves are green, with the mid-rib and veins of a deep crimson. To bring out the full quality of their brilliant colour the plants must be grown in a good light and a temperature of about 55°. *Asplenium flabellifolium* is at home in the temperature of the ordinary greenhouse and makes a most decorative plant, composed of pretty slender growing fronds, which are evergreen. These fronds are brown stemmed and very curious looking, while a bud is formed at the end of each that, immediately it comes into contact with soil, throws out roots and begins an independent existence of its own. A good specimen is necessary before you can judge the quality of the plant, for a small specimen is apt to look weedy. *Asplenium*

Sandersoni is another very fine small basket plant that does well in the greenhouse, making slender fronds, 6ins. to 9ins. in length, of thin, papery texture.

Among Maidenheads, *Adiantum caudatum* is quite distinct and makes fronds 1ft. to 1½ft. long that, where they come into contact with the soil, will root and form plantlets at the extremity. The pinnæ are produced upon either side of the mid-rib and it is most curious that, while they are fully developed upon one side, they are scarcely at all on the reverse. Both stems and leaves are thickly covered with light brown hairs. A variety of *A. caudatum*—*Edgeworthii* is very similar to this, but distinguishable by the fact that the fronds are quite devoid of hair.

A. lunulatum dolabriforme is a very handsome variety for the warm house and preferable to *lunulatum* in that it is evergreen. The fronds spring from a tufted crown on thin wiry stems that droop gracefully over, to a length of 6ins. to 1ft. These fronds are pinnate and proliferous at the end, so that plants may be seen carrying three generations at one time. Take special care with this that it never becomes dry or you will certainly lose it. *Blechnum glandulosum* requires the warmth of a house heated to 55° or 60° and consists of a creeping rhizome which bears beautiful spear-shaped fronds 1ft. to 1½ft. long, forming a very attractive specimen. *Davallias* provide a host of basket varieties, among those best suited to the small house being *D. dissecta*. This bears charming rusty brown rhizomes and a great abundance of finely cut fronds about 1ft. in length and triangular in form.

Among the unique Gold and Silver Ferns that display their charm to the fullest extent under basket culture, *Gymnogramme calomelanos argyrophylla* is perhaps the best of all. The fronds of this are 1½ft. long, the closely set leaflets being thickly covered upon both the under and upper surfaces with silvery white farina. Grown in baskets, both of these surfaces are exposed to view and the effect is both remarkable and really beautiful. Great care must, of course, be taken that this is not watered overhead or accidentally sprayed with the syringe or the splendid appearance will quickly be ruined, though, at the same time, the roots must have an abundant supply of moisture.

Turning from small baskets to larger ones and larger houses, where great size and length of frond is an advantage, one of the grandest features that are imaginable is supplied by *Polypodium subauriculatum*, a giant with fronds 8ft. to 10ft. in length. This demands the temperature of a warm house and bears rhizomes clothed with brown scales. In young plants the leaflets are slightly toothed, with older ones set widely apart. The plant does not like to be too heavily shaded and appreciates some chopped sphagnum moss in the compost.

Large plants of the wonderful *Nephrolepis*, in many varieties, form superb baskets in the warm house and, with their light green colour and almost endless fine division, always afford a picture of fascinating beauty. *N. acuta*, with its leathery pale green fronds, 2ft. to 4ft. in length, is very handsome and deserves special mention, while *N. davallioides furcans*, with its 3ft. to 4ft. long fronds springing from a cluster of crowns, should not be overlooked. Both of these appreciate a compost of coarsely broken peat, with some chopped sphagnum and silver sand. *Asplenium caudatum* needs a warm house and makes fronds 1½ft. to 2ft. in length, borne on firm stalks that are densely clothed with brown scales. The pinnæ are upon either side of the mid-rib and deeply toothed on the margin, while upon the underside of the margin are patches of red brown spores. H. W. C.-W.

CORRESPONDENCE

ROSE SPECIES.

I NOTICE that "Hortulanus," in a note on single Roses, expresses some surprise "that no one in this country seems to have conceived the idea of making a large and representative collection of Roses, single and double, in private gardens." I think I may fairly claim to have done something to remove this reproach. For some years past I have been collecting Rose species and I have in my garden to-day not less than 160 species or sub-species, and very interesting at all times of the year they are. I found that I had seven species which were not in the Kew collection. These I sent to Kew, the Curator on his side giving me a goodly number of species not previously in my collection. It is indeed strange that so few people seem to know of or to care for these Roses. It is a pity that there is no book suitable for the amateur on their culture, for Miss Wilmott's *magnum opus* on Rose species is far beyond the modest purse of most amateurs. Another difficulty in the way of making an adequate collection is the large amount of space required. Many of these Roses grow into very large bushes and it is not wise to use the knife on them too vigorously. But to grow them is an intense delight and they are beautiful even in winter, for the hips, which vary much in colour and form, make the garden quite gay even in December. The foliage of many of the species is very beautiful and a large number of them come into flower at least a fortnight before the procession of Teas and Hybrid Perpetuals. It is a bit of a business to collect these Roses. As you remark, Mr. T. Smith has a goodly number and some of the French rose growers can supply others. It is very easy to grow these Roses from seed, if one can get it. I find, e.g., that *Rosa Moyesii* and *Rosa hispida*, two of the most beautiful, grow very readily from seed. If such experience as I have had can be used to help any one desirous to form a collection of Rose species, I shall be very glad to give any information in my power to anyone who cares to write to me. I have, at any rate, learned a good deal from my own mistakes and have gained at least sufficient wisdom to realise how little I know when contrasted with what there is to know on this subject.—(REV.) R. W. CAREW HUNT, *Albury Rectory, Wheatley, Oxon.*

THE MADROÑA.

THE Madroña of the Pacific Coast of North America, *Arbutus Menziesii*, is a handsome species and one that might be planted more widely, since it will do in any locality where the common

Strawberry Tree (*A. Unedo*) survives. In its native country *A. Menziesii* will attain the stature of a tall tree, but here it is more often seen some 20 ft. to 30 ft. high. In general appearance it resembles *A. Unedo*, but the foliage is paler, fresher green and the leaves are larger and more rounded at the tips. At this season the Madroña is perhaps more beautiful than at any other, for it sheds its bark



THE MADROÑA, *ARBUTUS MENZIESII*.

in autumn as cleanly as a snake slips out of its skin, leaving the stem and boughs a warm terracotta or foxy red, and perfectly smooth, so that the contrast between this and the bright, glossy foliage is very delightful. The fruit is considerably smaller than that of *A. Unedo*, but is borne in much larger, grape-like clusters. Whether it produces this fruit as freely as does the Strawberry Tree I cannot say from actual experience, but it doubtless does so in favoured districts. Quite apart from this, however, the Madroña is a tree well worth the attention of all who can afford it a reasonably mild climate. It does well at Kew.—N. WILES.

THE TWELVE BEST SHRUBS.

THE results of the extensive and highly interesting correspondence on the above subject may, I think, be summed up both negatively and positively. In the first place, it has failed to tell us which are "the twelve best shrubs" or even to provide data for any judge or set of judges to settle that question. I have heard it asserted that there is no best flower, best book, best song

or best sermon, that every good thing has some special merit of its own. Be that as it may, it is impossible to say which are the best twelve shrubs, if only on account of differences of latitude and longitude—especially the latter—soil and situation, not to mention the truth of the Latin tag, *de gustibus non est disputandum*. What this correspondence has done, however, is to furnish readers of THE GARDEN with a list of several dozens of shrubs of very high merit from which it should be comparatively easy for anyone to choose a dozen which will prove to be really excellent for his or her particular circumstances. By the way, so far as my memory serves me, no list has included *Garrya elliptica* or *Skimmia japonica*, both beautiful in early spring in quite different ways.—CALEDONIA.

WITHOUT any qualifications regarding soils or hardiness, my choice of the best twelve shrubs for the average garden is as follows:—*Berberis stenophylla*, *Buddleia variabilis* *magnifica*, *Ceanothus Gloire de Versailles*, *Diervilla Abel Carrière*, *Forsythia spectabilis*, *Philadelphus Virginal*, *Ribes sanguineum* King Edward, *Spiræa arguta*, *Sophora viciifolia*, *Tamarix pentandra*, *Viburnum Tinus*, *Viburnum tomentosum* *plicatum*. A next best dozen would be of almost equal value, in fact, individual shrubs could no doubt be picked out which would be preferable to some of the best dozen for certain gardens. *Cistus cypricus*, *Escallonia langleyensis*, *Fothergilla major*, *Hamamelis mollis*, *Hypericum patulum* Henryi, *Kerria japonica* fl. pl., *Magnolia stellata*, *Olearia Haastii*, *Osmanthus Delavayi*, *Prunus triloba* fl. pl., *Rhododendron racemosum* and *Veronica Traversii*. A criticism of this list would be that half of the dozen are white, but as the flowering season extends from March to August it is not a defect in the garden.—A. O.

THE LOQUAT.

IN your issue of September 2 you refer to the Loquat (*Photinia japonica*) as follows: "They are usually considered more suitable for culinary purposes than for dessert." The Loquat is quite common here; in fact, I have one in my own garden, but I have never heard of it as a culinary fruit. It is principally esteemed because it comes in so early.—H. A. MARRISER, *Auckland, New Zealand.*

["For culinary purposes" might have been better expressed as "for jelly."—ED.]

GRAFTING CLEMATISES.

I NOTICE in your issue of November 11 an article by E. Markham on "Own Root Clematises at Gravetye." I should have expected to see such an article over the initials "W. R.," as it speaks of considerable pains having been taken there "over a period of many years," whereas I understand Mr. Markham has only been employed there the last few years. He also mentions the "Nippon Clematis," the name given by Mr. Robinson several years ago to C. Jackmanni. I have already explained in the press that these two Clematises are not synonymous. No unbiased person now thinks that they are.

In this article, as also in an article Mr. Markham wrote last May, he advocates layering instead of grafting, and stated in the latter, "if this method of increasing these beautiful climbers were adopted instead of the persistent practice of grafting upon the poisonous stocks of the Wild Traveller's Joy (*C. Vitalba*) and others, I am convinced that we should hear less frequently of the sudden collapse of these choice plants."

I am led to ask Mr. Markham if he has ever grafted any Clematises on this stock, because it he has done so, and has taken the trouble to watch

their development, he would not use such a ridiculous expression as "poisonous stocks." He would also know that instead of the stock killing the scion, the plant commences to grow as soon as the union of the scion with the stock takes place, and continues to gain vigour, and within a few weeks of being repotted, it forms new roots round the scion, which further assists in the growth of the plant.

Layering is one of the natural methods of propagation, and is well suited where a limited quantity of a particular plant is required, but I should like to know how Mr. Markham would raise 30,000 plants annually on an economical commercial basis by this process?

Mr. Markham also states, "I have frequently noticed that where plants on their own roots have, from one cause or another, been damaged above the ground line during their early growth, fresh young wood quickly appears and fills the vacancy. There is thus ample proof here that the loss . . . is wholly due to the practice of grafting."

Allow me to tell Mr. Markham it is no proof whatever, because if grafted plants are properly planted with the scion below the surface of the ground, the plants will send up fresh young shoots in a like manner.

As evidence of the fallacy of Mr. Markham's imbibed Robinsonian theory, that grafted Clematises only are liable to "die back," it may interest your readers to know that, when on a recent tour in France, I visited some of the growers of Clematises in that country, very carefully inspected their stocks and saw numerous instances, not only of the established layered plants having "died back," but also the layered shoots on the stools, and the stools themselves which had succumbed. A gentleman who has purchased these layered plants for some years also volunteered the information that most of his plants died.

Such being the case, will Mr. Markham kindly explain why these plants have been affected, if grafting is the reason for the "dying back."

Mr. Markham concludes his article by stating that the use in France of *C. viticella*, a native of that country, as a stock, is equally as harmful as *C. vitalba*. I should like to know how *C. viticella* can possibly be harmful as a stock for grafting hybrids of that species.

My experience of grafted plants, especially during recent years, is that the percentage of those affected has been very markedly less. A customer only this autumn informed me that a Clematis my firm supplied him with in spring 1921, had grown very vigorously this season and had produced 300 blossoms, in spite of the "poisonous stock," and I know of numerous plants which have been established for several years.—A. G. JACKMAN.

SOWING FREESIA SEED.

I HAVE been asked to say a few words about sowing Freesia seed in the late autumn. There is no use crying for the moon, so if anyone has missed the best time for sowing, which I think is the August or September after the seed has been gathered, he must make the best of it and get the seed in as soon as possible. It will take considerably longer to germinate, and possibly some seeds may fail, but only very few. One thing, however, is essential, the sower must make sure he has the seed garnered in the last summer—not older seed. About two years ago some was sent me from New Zealand, but it came up very irregularly and took a long time about it. I cannot say how long seed will keep good, as now I have always plenty of my own, but no doubt there is a time after which it is very little use. Anyone who buys from the 1923 seed catalogues ought to order it at once and get it sown as soon as ever they can.—JOSEPH JACOB.

A HARDY SUCCULENT.

IT is now a good number of years since I first saw *Cotyledon Semenovii* in a border of hardy flowers in the garden of a friend who has a special liking for such plants. It had not found its way into many gardens in this country at that time and was quite a rare plant. It has been long enough in cultivation in these isles, however, to have proved its suitability for our gardens, and I may add that the original plant referred to above is still in the border in the same garden and has considerably increased in size in the years which elapsed since it was planted. *Cotyledon Semenovii* is, possibly, more likely to find favour in the rock garden than in the border, where its genius seems less in agreement with its neighbours, but it is about 18 ins. high, so this must be considered when planting. It has the advantage of flowering in autumn—no mean consideration in the rock garden, where flowers are frequently less plentiful at that season. In general terms it may be described as a sedum-like, erect-growing plant with fleshy leaves and crimson flowers. Not all of the *Cotyledons* are true hardy perennial plants, many being only biennial, but *C. Semenovii* is a true perennial. It can do with a good rich soil, but it may also be grown in a poor, dry one, its succulent habit rendering it capable of standing a considerable amount of drought. It is increased by division, cuttings or seeds.—S. ARNOTT.

CERATOSTIGMA PLUMBAGINOIDES.

"*Ceratostigma plumbaginoides*."

Hark to the sesquipedalian roll!

Imagine the pride of the Greek-seeking gardener
When with *ore rotundo* he gets it out whole.

A plague on the fool who, immersed in his study,
Set a trap for the tongues of the folk as can't tell;
Why change the hard *Kappa* of Keras to Ceras?
There's a stigma attaching to his name as well.

"A Horn's prick which looks all the world like a
Fleawort"

(For *Plumbago* is *Leadwort* or *Fleawort* or both),
So there's the plain English of that high-falutin'
Which to most minds suggests a cutaneous growth.

You dear little Flower! Does it really describe you?
With your petals so blue, and your leaves all so red?
I believe that our fatuous botanist named you
As he lurched, none too steadily, up to his bed.

If I had my way we should spell that "Oh! Ideas!"
(For the printer *won't* see the two dots on the "i";
And from peers to princesses they all call it *oides*,
And they will call it *oides*, until they all die.

REGINALD RANKIN

SOIL STERILISATION. AN OBJECT LESSON.

THE question of sterilisation of soils is becoming pressing here on the Riviera. The Carnation in particular is so sensitive to a soil charged, as it were, with its own excreta, that it was thought impossible to grow this plant in the same place year after year. I do not say that very scientific methods are employed always, but at least it is universally understood that burning the old plants and baking as much of the soil as possible is absolutely necessary to success and much of the manure that was used has been found to be the very means of propagating fungoid disease. Above all, the stock itself must be free from this pest, and the seed is sterilised before sowing. The common white Madonna Lily is another plant found peculiarly liable to fungoid disease, which fully accounts for its failure in so many English gardens. The other day I was shown two pots of *Lilium*

candidum grown for early forcing, and those who have had to cultivate them in pots will, I feel sure, corroborate me when I say it has been a very uncertain plant to cultivate for forcing purposes. There were half a dozen pots at the end of the long row that looked unhealthy, so I enquired the cause. "Those are the few bulbs that were not planted in sterilised soil." The superb health of those in the sterilised soil was quite a surprise. The radical autumn leaves were so fine that the bulbs might have been grown for their foliage only, and the great fat central bud of the spiny flowering stems was clearly visible in mid-November. The lesson was to me very striking. The same soil—but not sterilised—spelt disappointment and defeat, the carefully treated soil spelt success. No fresh manure of any sort must, of course, ever be used to this Lily.—E. H. WOODALL.

THE HALSHAMBERRY.

TODAY (November 24) we made our last gathering of this most useful berry, sufficient good fruits to make a good-sized tart. I hope your readers will note the above date. We cut the plants hard down to the ground in February; they made extraordinarily prolific growth and have fruited from early in September right up to now. Plants of this *Rubus* were first sent me as a present by my friend Mr. King-Sampson of the Beacon Hotel, Crowborough. He grows a large breadth of it for use in the hotel, and told me of its abundant bearing and sterling useful qualities. I would not be without it now on any account.—F. HERBERT CHAPMAN, Rye.

"BEAUTIFUL FLOWERS AND HOW TO GROW THEM."

IN your issue of November 11 I notice with astonishment a critical review of a book by Messrs. H. J. and W. P. Wright. I do not know in what manner this is now being issued, but as it was published in 1909, there is every reason that it should appear "antiquated" to one who had not seen it before. It seems to me that the letterpress was chiefly meant for a setting to the illustrations, which you rightly label as "really beautiful." They are excellent reproductions from some of the first flower painters of that time, and alone make the possession of the book a delight. I confess I have never studied the letterpress, and, possibly, had your critic known its date he would have dealt more mercifully with it.—HUGGIRLEY.

[The book was sent for review without comment. It bears 1922 on the title page and there is nothing to suggest that it is only a reprint.—ED.]

WINTER GREENS BETWEEN OTHER CROPS.

THE practice, which so long held sway, of planting Winter Greens alternately between other crops—Potatoes mostly—for economy's sake finds few adherents to-day, as it has been proved conclusively time and again that there is no advantage whatever to be derived in so doing. The best winter greens are produced on ground (prepared for by deep digging and manuring) set aside exclusively for them, and it is when an attempt is made to wrest from the soil two strong-growing vegetables, often planted in close proximity to each other, that the folly is seen in poor crops from both. In no season are the baneful effects of close-cropping so clearly demonstrated as in a time of drought, as then both suffer. Winter greens, whether they be represented by Savoys, Brussels Sprouts or Kale, take so much from the soil as to need rich feeding and a reasonable amount of room, and it is the loss of this that brings about vegetables of

indifferent quality. There is no economy whatever in curtailing the root room of winter greens, which, after all, are an important item of food. Is it to be wondered at that the dreaded club-root now finds congenial conditions in which to spread quickly on overcrowded and ill-nourished ground?—W. L. L.

WINTER-FLOWERING BEGONIAS.

IT is rather surprising that these beautiful plants are not more widely grown for the embellishment of the conservatory during the dull winter months. Apart from the Gloire de Lorraine section their culture is unfortunately somewhat difficult. However, if care and a little forethought be exercised, a reasonable amount of success may be expected. Their usefulness as plants for the conservatory is emphasised by the large collection now on view in the conservatory (House No. 4) at Kew. An explanatory note accompanying this collection states: "Begonia socotrana was introduced from the Island of Socotra in 1880 by Professor Bayley Balfour of Edinburgh Botanic Gardens. This, in itself a beautiful winter-flowering species, proved of immense importance as the progenitor of our present day race of winter-flowering Begonias. From 1883 Messrs. J. Veitch and Sons produced

many fine winter-flowering varieties by inter-crossing *B. socotrana* with various tuberous-rooted varieties; some of their latest hybrids being Exquisite, Fascination and Optima, as shewn in this group. Note how their leaves resemble the offspring of the Audrean species. They have never been commonly cultivated, this owing to certain cultural difficulties. Mons. Lemoine of Nancy, in 1892, crossed *B. socotrana* with the S. African *B. Dregei*; the following year, 1893, they sent out the resulting hybrid, *B. Gloire de Lorraine*, of which there are now several varieties, including several of American origin, such as Glory of Cincinnati and Mrs. Petersen." Perhaps one of the most successful amateur growers of these Begonias is Sir C. Nall-Cain of Welwyn, as those who have seen his wonderful exhibits at the Royal Horticultural Society's Hall will testify. Apart from their value as pot plants, *B. Gloire de Lorraine* and its varieties are among the most useful of plants for basket work. Among the sorts to be seen at Kew are the well known and beautiful Optima, Exquisite; BB. Mrs. Heal, Scottiana, Bavaria, Ingrams, Gloire de Lorraine Mrs. Rothschild, G. de Lorraine Turnford Hall, polyantha (from Mexico), Miss E. Chibran, Sunrise, Fascination, Dregei, socotrana, Glory of Cincinnati, Sandera and Mrs. Petersen. An admirably grown and comprehensive collection!—G. H.

SEWAGE MANURE

ITS USE AND VALUE

IT is interesting to note that sewage manure (as such) is now being advertised in the gardening Press as a commercial proposition, but there will doubtless be a great many gardeners who read such advertisements, but who hesitate to purchase sewage manure from those who offer it, despite the acute shortage of dung in many districts, thinking that it will not give satisfactory results and thus serve no useful purpose, but be money wasted if it is used. Such fears are groundless and therefore the fullest use should be made of the material as a substitute for dung, since it is, with certain striking exceptions, quite a good one.

I have no wish to draw attention to my own work on sewage manure in connexion with manuring of gardens and allotments, as most readers have probably read the results of my experiments elsewhere, but I may say for the benefit of those who have not, that I went into the matter pretty fully quite recently and found that many of the objections to using sewage manure were hollow ones, and that it generally gave quite satisfactory results considering its somewhat variable composition.

If full use is to be made of sewage manure this winter and next year, what are some of the most important points in connexion with it? it may be asked. First of all I place the matter of price, and bearing in mind that samples are rarely as rich in fertilising material as an equal weight (not bulk) of dung, a low price should consequently be paid for what may justly be termed an inferior manure. I see it advertised at half a guinea per ton, carriage forward from London, in four ton truck loads, and this is the maximum price which should be paid. It will probably be found possible if the matter is taken up by the gardening public, to put it on rail later at 8s. 6d. per ton—one hopes so—as this would be a price that no one need hesitate to pay with the assurance that it would be money well expended.

I have not so far examined or tested samples of the sewage manure being offered as a commercial

article, so cannot speak definitely as to its composition. The samples used for my experiments were samples of the pressed sludge cake and other materials from actual sewage works and these were found on analysis to be very low in potash content. Therefore it was necessary to bring this up by adding potash in some form or other, the most economical material being shown to be ordinary factory flue dust. The actual amount to add varies obviously with the analysis of the sample of flue dust to be used, but my aim was to get about 4lbs. of potash into each ton of the sewage material. Considerably more could be used with advantage in the case of root crops and Potatoes, which are very partial to potash, but a 4lb.-per-ton-standard was shewn to be quite sufficient for ordinary work.

Now as regard the special soils most benefited by the use of sewage manure, the opposite takes place to what one would expect. Many casual observers of sewage manure either in its dried or undried condition would regard it as a good binding agent for light and chalky soils, but on the contrary it is an opening material much more suitable for heavy clay land than for light sandy soil and almost equally useful on strong marly ground. If an average sample be taken and rubbed in the palm of the hand it will prove to be far less sticky and greasy than one would expect, and in many cases abundance of sand can be noticed in it. This is exceedingly useful as an opening agent on strong soils, and advantage should be taken of the fact. Where, however, mechanical analysis (which can easily be carried out by any gardener who does not mind going to a bit of trouble), shews that there is more sand in it than 15 per cent., or at the very most 20 per cent., a considerably lower price should be paid for it, as one is paying for sand in such cases and not for manure.

The amount of actual humus in sewage manure varies between wide limits. I have had samples which, on being put through the process of mechanical analysis shewed that they contained as

much as 50 per cent. of organic matter. Average samples are generally much nearer 20 per cent., and on strong soils this is quite sufficient. I might mention that the samples richest in humus can be used with fair advantage on light soils, but that the humus appears to be very easily washed out of such soils, far more quickly than, say, the humus produced from decomposing vegetable manure.

Sewage manure often contains a large quantity of chalk, but this should never exceed 45 per cent. at the very most, since one does not want to pay for chalk at the manure rate. About 35 per cent. is a fair average, and a pretty good idea of the amount present can, of course, be obtained readily by testing the material in the well known way with hydrochloric acid. It is not necessary to give details of the method here. Dried sludge or dried sewage manure as it is more politely called, should not contain more than 5 per cent. of water, the wet material, of course, containing a variable and comparatively large amount of water (which by the way makes the carriage mount up).

I have used sewage manure so far to a limited extent only in the case of flowers, but with very good results in each case, it being proved quite suitable for the manuring of borders intended for and afterwards sown or planted with hardy annuals and hardy herbaceous perennials. Whether it will last as long as dung in the case of borders of the latter, which are left down for a number of years is, of course, impossible to say at present, but one hopes for the best. In the case of vegetables, with a few striking exceptions such as the more salading kind of vegetable, which roots in the surface soil and requires a very rich medium to give its highest return, sewage manure was shown to be of equal, if not greater value than dung, provided, of course, that it was not used too fresh, for it is then full of germinating weed seeds which give a good deal of trouble. Potatoes gave a heavy crop with it, and root crops generally, if supplemented with potash, could be grown with it of very high quality indeed. A poor soil could, it was shown, be brought up into a high state of fertility by its general use with very little danger of fanging the roots, whereas dung would fang them directly. Peas and Beans can be grown in trenches manured with sewage manure in just the same way as one would manure with dung, using slightly less of the material and not more, as some might expect. Cabbage crops were shown to do very well with it, but its use does not, unfortunately, cure clubroot disease, as some writers claim. On acid soils it appears to aggravate this disease, unless it contains a high percentage of lime, and it will probably also aggravate wart disease in Potatoes on land affected by that serious malady, as the two diseases are related. Land on which my experiments were carried out was free from wart, and I was unable to use it on any infected area to note its effects.

About how much should one use? That is a question which must, of course, depend very largely on the poorness or richness of the soil on which one is working. A good average dressing appears to be 2½ tons to 3 tons per 1,000 sq. yds., or under 14 tons per acre. This, compared with the weight of dung usually applied is economical both in quantity and price. Poor soils must obviously have more, and on very poor land (or one might say the poorest land of all), the amount could be increased by as much as 50 per cent., while on rich land it could be decreased in nearly the same proportion.

I hope this little sketch of the use, etc., of sewage manure will induce many other gardeners to take it up. I was very far from being disappointed with the results I obtained from its use, and have no hesitation in saying that other gardeners will be equally pleased if they will give it a fair trial.

E. T. ELLIS.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Roots in Store. particularly Onions, should be looked over when the weather is unsuitable for outside work and those found in an unsatisfactory state placed ready for immediate use. The bulbs did not ripen too well in this neighbourhood this season, and unless storage quarters are very good it will be impossible to keep them very late in the spring. Potatoes, too, need attention and tubers required for seed should be laid out thinly in shallow trays or spread out on a cool store stage, where it is convenient to look over them occasionally for disease, etc.

Uncropped Land.—Make the best use of dry days to get carting or wheeling of necessary manure on these plots done, so that, as opportunity offers, the work of digging or trenching will not be held up. It should be arranged so that the heaviest land receives such a dressing as decayed leaves, straw manure and decaying greenstuff, and the lighter soil such as cow and pig manure, etc. Throw the ground up roughly so that the weather may have full play upon it.

Autumn Sown Cauliflowers which were pricked out in frames must receive plenty of air whenever the weather is at all open, as any coddling of the plants will only spoil them, particularly so when such treatment encourages a close damp atmosphere. Stir the soil a little occasionally and guard against slugs. If no plants were potted up and it is desired to bring a few along more quickly, lift the more forward of them now and pot fairly firmly into 4in. pots.

The Flower Garden.

Protecting Plants.—It will be advisable to make the necessary arrangements for the protection of the various shrubs, etc., which will shortly need it, should a cold spell be experienced. A suitable protection may be afforded with matting material or with evergreen boughs. To fix whichever is chosen in position for single plants, or small groups, some stout stakes driven into the ground and fastened securely at the top will offer a ready means of attaching the covering. It may only be necessary in some cases to check the north and east winds having full play, and this may be dealt with by interlacing plenty of evergreen boughs in among some wattle hurdles made sufficiently high to suit the purpose. It should never be forgotten that to afford plenty of protection to the roots and base of the plants is of even greater importance than giving top covering in many cases, so, when dealing with any plants of doubtful or unknown hardihood, put a good covering of ashes round the plants and use some dry bracken fern in among the lower branches and around the stems. Shrubs on walls or against buildings are easily protected either with mats or boughs, taking care they are made quite secure against strong wind. Bush Roses needing protection may have some dry soil moulded cone-fashion round the stems, interlacing at the same time, if necessary, a little bracken among the shoots. Standards may have some of this material worked among the growths.

The Hardy Fruit Garden.

General Work.—If planting or root pruning has been held up, lose no time if the soil is workable in getting this finished. Place a good mulching of leaves and straw manure round newly planted Apples, Pears, etc., to keep them warm at the root. Should woolly aphid be attacking any of the trees, the present time is a suitable one for dealing with it, either with a strong spray or, better still, if time can be found, go over the affected branches separately with a good stout paint brush, taking care that none of the pests is overlooked. A paraffin emulsion preparation is as good as anything for this pest.

Fruits Under Glass.

Strawberries.—Plenty of time should always be allowed for bringing along the early batches of pot Strawberries, as hard forcing may easily mean the loss of the crop. There are several suitable places for giving the plants a gentle start, such as on shelves near the glass in a slightly heated fruit house, or in a moderately warm plant house in similar position, or again in a lean-to pit facing south. For choice the last named is the best, especially when it can be arranged for a bed of leaves to be placed in it. This bed of leaves, when made thoroughly firm, will give a gentle, regular heat, which is very helpful in encouraging the plants into a healthy, active state at the roots. The plants, having been cleared of decayed leaves, etc., and

had their pots cleansed and the drainage examined, should be stood on the leaves for about a fortnight when they may be plunged into them. Avoid excessive moisture for some weeks.

H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

General Work.—Remove all decaying leaves from among the Brussels Sprouts and Green Kale, so that more air may circulate about the plants. This assists in firming the stems and imparts a much tidier appearance to the garden. Swedes may be cleared from the ground and stored in suitable quarters for winter use. A quantity of Horseradish may also be lifted now and stored for convenience during wintry weather.

Mushrooms.—Beds spawned six or seven weeks ago will now be shewing freely so should have the straw covering removed. Successional beds should now be spawned and soiled down, keeping up an even temperature of from 60° to 65°. Excessive heat should be guarded against, it being wise to err on the low side rather than have the temperature too high. Spray the paths and walls close to the hot-water pipes morning and afternoon.

Parsley.—Where provision has been made for winter supplies by planting in frames, close attention should be given the plants in the way of free ventilation so that damping off of the leaves may be kept in check. Pick off all decayed growths and afford suitable protection during severe frost.

Perpetual Spinach proves a welcome addition to the winter supplies, being hardy and of free growth. Run the hoe between the rows at frequent intervals so that the surface soil may be kept stirred and thus encourage further growth while the weather is open.

Cauliflowers.—Young plants growing in frames for early planting require abundance of ventilation so that they may be kept from making too much soft growth as well as to prevent the leaves from becoming mildewed. Stir the soil between the plants with a pointed stick and keep the soil on the dry side during the dull winter months.

The Hardy Fruit Garden.

Red and White Currants.—When pruning Red and White Currants the side growths should be well cut back to two or three buds, leaving about 6ins. of extension wood where necessary. The cordon method of training these Currants is to be commended, as the fruit grown on cordon trees is generally of excellent quality and large size. A quantity trained on a north wall ensures late supplies, while the fruit can be more readily protected from birds and is easily gathered.

Black Currants should not be subjected to spur pruning as the finest fruit is produced on the previous year's growths. Retain a few of the best placed basal growths to take the place of old or exhausted branches which should be removed. Any young shoots of undue length should also be cut back, while bushes carrying dense growth should receive a judicious thinning, keeping the centre of the bushes open. In gardens where caterpillars have been troublesome during the past season the soil should be removed from beneath the bushes to a depth of 3ins. or 4ins., replacing it with fresh compost. A light dressing of newly slaked lime will prove beneficial to the roots and act as a deterrent to the many insect pests which attack fruit trees. A dusting of soot and lime should also be given the bushes as it renders the bark clean and bright.

Planting should be pushed forward whenever the state of the soil and weather conditions will allow. After planting apply a mulch of short litter or old hot-bed manure, as this assists in protecting the roots from severe frost.

The Flower Garden.

Early-flowering Gladioli always find favour where cut flowers are in demand, especially The Bride and Blushing Bride, two excellent and easily grown sorts. This section of the Gladiolus family rather favours a light soil, but on heavy land will do quite well if the bulbs are surrounded by a mixture of leaf-mould and sand more quickly to encourage root action. Plant the bulbs fairly closely and not too deeply. Choose a sunny position for the bed. JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

GREENHOUSE AND CONSERVATORY.

Oranges are what the gardener usually describes as "dirty plants," and not without good reason, for they are very subject to attacks of scale and mealy bug; both of them troublesome pests, the former especially being difficult to keep in check. The best preventive I know of is a paraffin and soft soap emulsion, with which they should be sprayed once a week. If the plants are in pots or tubs, they should be laid on their sides to prevent the liquid running into the pots; if the plants are planted out in beds or borders, it is wise to lay old sacking or some such material on the surface of the border. During wet days some of the outdoor staff should be put on to sponge the plants thoroughly. Oranges are not much in favour at the present day, yet their blossom and fruit always attract attention, and they are really among the best of evergreen shrubs for furnishing the conservatory as, beyond keeping clean, they require very little attention. They are excellent for growing in tubs, but are possibly at their best when planted out in beds or borders in a cool conservatory. Pruned and trained in much the same way as Peach trees they are excellent for covering walls. Oranges enjoy a rich medium loam, and when potting or top-dressing plants a 6in. potful of fine bone-meal should be added to every bushel of soil.

Paraffin and Soap Emulsion.—There is possibly no better or more effective insecticide in the garden than paraffin, when properly and intelligently used. On the other hand, this is one of the most dangerous insecticides when improperly emulsed. Even at the present day it is surprising how often when its use is advised one reads something like this: "Mix a wine-glassful of paraffin in a bucketful of soft soap and hot water, and when applying it have an assistant to keep it constantly agitated with a syringe." This is a more or less useless precaution, as the mixture is no sooner sprayed on the plants than the oil separates out again. It is unnecessary to run this risk of injury to plants, as it is quite easy to make a safe emulsion in either of the following ways: Take 1½lb. of soft soap and place in an old pot or bucket with half a pint of water. Place on the fire and when dissolved remove from the fire and add 1 gallon of paraffin, stirring until it thoroughly combines with the soft soap. This may be put away in tins or jars, and will keep for any length of time without the oil separating out. The other way is to mix them cold, working the soft soap and paraffin together until they combine. It is not so quick as the former method, but there is no doubt about their perfect combination, as this mixture will blend with cold water like milk and never shew a trace of oil. With the above emulsions 2ozs. to 1 gallon of water may be safely used for most plants, but of course the quantities must be varied for different classes of plants; the age of the foliage must also be taken into account. Whenever possible soft water should be used for mixing insecticides, and they are always more effective when applied warm. In fact, boiling water alone is an excellent insecticide, and it is surprising the number of plants that will stand spraying with "boiling" water. Of course it is not boiling by the time it reaches the plants through a fine spray.

Choisya ternata (Mexican Orange Blossom).—This shrub, although hardy in the open in many localities, is worth growing, especially in the colder parts of the country, for conservatory decoration. It flowers freely in small pots, and makes fine specimens when grown in large pots or tubs. It is easily rooted during the spring by means of short, half-ripened shoots, standing them in a close case in a cool house, or cuttings may be dibbled into a cold frame during the autumn. Such cuttings should make nice plants the following season.

Viburnum Tinus (Laurustinus).—This is also very useful for furnishing the cool conservatory, and along with the Choisya is excellent for unheated houses. This Viburnum is fairly hardy outdoors in the London neighbourhood, especially on light soils. It flowers more or less from September until March, according to the state of the weather. We, in the more favoured parts of the country, are, I am afraid, somewhat apt to forget our friends in less favoured parts. Hence plants that we have come to look upon as common outdoors may under less favourable conditions be well worth the shelter of a cold house. This is my reason for mentioning what to many may seem common plants. The newer Viburnums, Carlesii and odoratum, have so far proved hardy in the South, but here in the open the flowers of the former nearly always get more or less damaged

by spring frosts. It should thus be an ideal plant for an unheated house in the North.

Jasminum nudiflorum (Winter Jasmine).—Well grown specimens in pots of this common plant are very charming for a cool or unheated house.

J. COULTS.
Royal Botanic Gardens, Kew.

OBITUARY

HENRY JOHN ELWES.

THE death of H. J. Elwes, F.R.S., at his residence, Colesborne, at the age of seventy-six, severs another of the links which connect the Victorian giants in the world of horticulture and botany with the students and adventurers of this post-war age. A great traveller, Mr. Elwes was a horticultural authority of the first water. His monograph on the genus *Lilium*, published in 1880, is still a standard work. In collaboration with Professor Henry he produced "The Trees of Great Britain and Ireland," which was issued in seven volumes (1906-1913). This is a magnificent and monumental work and must have necessitated a vast deal of labour, but Mr. Elwes possessed application in marked degree, as well as the capacity for taking infinite pains to verify information. Upon the labour he devoted to the hybridisation and improvement of the Nerine there is no need to dwell. It is to some extent dealt with on another page. Mr. Elwes had a fine collection of Succulents at Colesborne and his collections of the smaller bulbous plants, such as Crocuses, Snowdrops, Fritillarias and Tulips, were well known and many of the species were collected and introduced by himself. Why particularise, however? He had a comprehensive knowledge of all branches of horticulture and was an admirable botanist.

He was a traveller in the best sense of the word. There was nothing of the Cook's tourist about Henry J. Elwes! From Asia Minor to far-off Japan and from India to Siberia, there were few extensive regions of Asia which he had not explored. North America, including Mexico, was also familiar ground to him. Nor did he neglect Europe to wander afield. Few living Englishmen know as much of the different European countries as did the man whose loss we lament. The plants he introduced would alone furnish a respectable catalogue!

A Fellow of the Royal Society since 1897 and a Victoria Medallist of Honour, he was largely instrumental in bringing about the resuscitation of that venerable and important publication the "Botanical Magazine." As gardeners we are apt to think of Mr. Elwes as a great collector, gardener and botanist, but, in truth, his interests were infinitely wider. He was, in 1921, elected President of the British Ornithological Union and contributed as long ago as 1873 an important paper "On the Geographical Distribution of Asiatic Birds." He was also a Past President of the Entomological Society, his interest centring principally on the lepidoptera.

His interests, when at home, were not entirely confined to his collections of trees and plants and his scientific pursuits, for he was fond of hunting, and in his younger days was an adept with the rifle. There are, indeed many quarters from which his massive frame and resonant voice will be sadly missed.

SIR ISAAC BAYLEY BALFOUR.

We hope in our next issue to publish an appreciation of Professor Sir Isaac Bayley Balfour, K.B.E., F.R.S., who for many years was Regius Keeper of the Edinburgh Botanic Gardens and Professor of Botany at Edinburgh University. His death at the age of sixty-nine occurred at Court Hill, Haslemere, on 30th ult.

The Blueberry.—For a moist but not heavy loam or peaty soil the Blueberry of America, *Vaccinium corymbosum*, is an admirable shrub, attaining a height of some 8ft. or more and spreading to fully that width. It is a deciduous species, and the fresh green leaves of spring are followed by clusters of pendent waxen bells in a clear pink. In the later summer the blue and luscious fruits ripen, and these are said to be as good to eat as they are to look upon. But *V. corymbosum* is, perhaps, most noteworthy as an autumn foliage shrub, the leaves assuming a vivid blood red before they fall.

The Sensitive Fern.—The North American species, *Onoclea sensibilis*, is a Fern which merits a wider popularity than it now enjoys, for there can be few plants more delightful for a cool, rather moist spot in partial shade. *O. sensibilis* is remarkable for the beautiful, soft emerald-green of its bluntly-lobed fronds, especially when these first appear in spring, while the warm, even shade of golden buff which they assume in autumn is hardly less attractive. This Fern is most suitably placed among the more lowly peat plants, or in a cool bed where it can be associated with such as hardy Orchises and Cyclamens, dwarf Anemones and any of the smaller spring-flowering bulbs that will do in such conditions. Spreading by means of underground rhizomes the Sensitive Fern will cover thinly a considerable space, but it is not generally a rapid or in any sense a rampant grower. The height of the fronds is about 1ft., but this varies considerably according to soil and moisture.

The Cockspur Thorn.—A tree somewhat little known yet of great decorative value is the Cockspur Thorn, *Crataegus Crus-galli*. Perhaps the most valuable characteristic of this tree is the remarkable beauty of its autumnal foliage. With the "fall of the year" the leafage assumes various and wonderful tints of fiery red, golden and sulphur yellow and intermediate shades of fawn, thus forming an effect both brilliant and artistically harmonious. It should not be supposed that this autumnal display of splendour terminates its season of beauty, for with the falling of the leaves the handsome bright red berries are revealed. These are considerably larger in size than the majority of Thorn berries and measure about half an inch in diameter. The berries continue to adorn the branches for the greater part of the winter. With the coming of spring the tree is again beautiful with fresh green leaves and white blossom. This *Crataegus* forms a tree of but moderate size, seldom exceeding some 20ft. in height. It can therefore be relied on not unduly to monopolise space even in quite small gardens, where it might very advantageously displace the unsuitable specimens of common Poplar, Lime, etc., too frequently met with. The Cockspur Thorn has been so named on account of the curious shape of the long thorns on the branches. *Crataegus Crus-galli* is a native of North America. It requires little or no attention in regard to pruning and is also easily catered for in respect to soil, for it will thrive on almost any ground of moderate fertility.

Rose Trials at Wisley. The Director of Wisley has the pleasure to say that the land set aside for the rose-trial ground in the Gardens of the Royal Horticultural Society is now ready for planting. He would be glad if those desiring to send Roses for trial this season would let him know as soon as possible, and will be pleased to send the necessary entry forms. All types of Roses will be included in the trials. All communications should be addressed to The Director, R.H.S. Gardens, Wisley, Ripley, Surrey. (Goods: Horsley, L. and S.W.Ry.)

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

PLANTS FOR A MIXED BORDER (C. M. W.).—Our correspondent must not enrich the soil unduly if the plants are not to grow too high. The following, if planted in a soil of medium richness, will attain to the desired height. For the back of the border use *Eryngium alpinum*, *E. campestre*, *E. Bourgati*, *E. tripartitum*, *Aster amethystinus*, *Aconitum Fischeri*, *Echinops Ritro*, *Campanula E. Molyneux*, *C. Van Houttei*, *C. carpatia Riverslea*, *Centauria montana*, *Aquilegia hybrida Cœrulea* in variety, *Scabiosa caucasica*. For centre, the seven last named will be ideal. For the front, next to the Nepeta, use the following: *Gentiana Andrewsii*, *G. Crucjata*, *G. macrophylla*, *G. purpurea*, *G. scabra*, *Anemone apennina purpurea* and *Violas*. These are all blue. Lilac, violet or purple colours will be available in *Asters*, *Dolichiums*, *Iris*, *Fynthrum*, *Gentiana* and *Aubrietia*, sufficient to fill a very large border with a good range of the various shades required.

ROCK GARDEN.

PLANTS FOR A ROCKERY FACING NORTH-EAST SHADED BY TREES (R. C. C., Worcester-shire).—With such an aspect one could not expect to get a great display of colour, but many things will grow in such a situation. Among the dwarfier plants are *Anemone nemorosa*, *A. apennina*, *Omphalodes verna*, *Campanula Portenschlagiana*, *Corydalis bulbosa*, *C. nobilis*, *Centauria montana*, *Crucianella stylosa*, *Epimedium pinnatum*, *Eranthis hyemalis*, *Heuchera brizoides*, *Myosotis alpestris*, *Ophiopogon spicatum*, *Polygonatum multiflorum*, *Convallaria majalis* (Lily of the Valley), *Polygonum affine* (Brunonis), *Potentilla nepalensis*, *Primula rosea*, *P. japonica*, *P. Bulleyana*, *P. Jacquiniana*, *P. sikkimensis*, *Pulmonaria azurea*, *Sedum spurium* (purple and white vars.) and *Thalictrum aquilegifolium*. A reliable firm of nurserymen near who would supply the above is Messrs. Bowell and Skarrett, Cemetery Road, Cheltenham.

TREES AND SHRUBS.

PRUNING LAURELS (M. H., Grisy-Suisnes).—In the ordinary way an established Laurel bush or hedge is one of the easiest things to prune, as it produces young shoots so freely from the old stems when cut down in April or early May. A recently transplanted hedge is not so easy to deal with. We should, however, not hesitate to reduce the height now to 8ft. or 10ft., even lower than this if the stems at this height are not more than 2ins. to 3ins. through. It would serve no useful purpose to tie the branches together, but rather shorten them back to a reasonable length. As a drastic cutting is suggested now, there will not be a great deal of pruning to do in spring beyond shortening back all the thin straggling shoots. Where thin at the bottom cut down one or two of the thicker stems, if possible, to within about 2ft. of the ground. Tar over all cut surfaces. During dry weather now or later, especially if the ground is light, water the Laurels liberally until rooted well in the new positions.

MISCELLANEOUS.

YARROW IN LAWNS (P. L., Southminster).—Rake out the Yarrow and apply, in March, lib. of sulphate of ammonia to each square rod of lawn.

HOW TO TREAT POOR LAWNS (K. E. T.).—Evidently the soil of our correspondent's poor, weedy lawn is not of good quality and is possibly of a light nature. Such lawns require substantial top-dressings of rich material, and the present is a suitable time to apply them. Half a pound per square yard of the burnt rubbish will do good. Procure some well rotted manure, break it up very fine with a garden fork; to each bushel add two of rather retentive loam, also well broken up, and apply the mixture at the rate of one barrowload per square rod. From time to time brush the mixture to and fro; by next February it will have disappeared. At that time apply bone-meal at the rate of 3ozs. per square yard, and during next summer the lawn will look quite nice and fresh. First, however, uproot all coarse weeds. Do not use sand nor sulphate of ammonia.

SOWING SEEDS OF BULRUSHES (F. C., Alford).—The seeds ought to be quite ripe now; if not, the stems should remain in water till the heads break up easily. For sowing a place must be selected about water-level, but care must be taken that the water does not wash the seeds away after being sown. Sow the seeds at once in drills and slightly cover with soil, or the seeds may be pressed into the muddy soil with a flat board. The best and surest way to establish fresh groups of Bulrushes is to transplant them. If the level of the water can be lowered, then they may be got at more easily, but it is generally possible to get a few clumps at the water edge. The roots run rather deep, so care must be taken to get as much of them as possible. Another method is to take growing points with a few inches of the underground stems attached and plant them firmly in muddy soil. They must be kept very wet.

NAMES OF PLANTS.—H. P., Somerset.—1, *Carpinus caroliniana*; 2, *Nellia (Spiraea) opulifolia aurea*.

NAMES OF FRUIT.—A. K., Liphook.—1, Winter Quarrenden; 2, Foster's Seedling; 3, Blenheim Orange; 4, Tower of Glamis; 5, Royal Jubilee; 6, King of the Pippins.

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THE ARRANGEMENT OF FLOWERING SHRUBS—II

(Continued from page 601.)

THE diagram at the top of page 628 shews how planting by families may be carried out. Flowering trees of some, such as many of the *Pyrus* family, for example, may be more conveniently grown in plantations if it is desired to grow a collection. For the garden of limited acreage, however, collections of trees are too bulky and the gardener, if collect he will, must be content with some of the shrub families. It is neither necessary nor desirable to change the character of the groupings quite suddenly. It would be unwise in the same bed, for example, suddenly to stop a collection of *Berberises* and *Thorns* and replace them with *Viburnums* and *Mock Oranges*. It is not wise, either, to have the opposite sides of a pathway entirely different in character. To do so gives an arbitrary unnatural effect.

It is not essential to arrange shrubs in the semi-wild manner indicated. Many of them may be grown successfully in open woodland, notably some of the *Rhododendron* species and other families on the borderline of hardiness. If existing woodland is not at disposal, a certain amount of shade and shelter should be provided as quickly as possible for the *Rhododendrons*. *Birches* and *Scots Pines* are suitable companions for them and afford the kind of shade they like, but the *Birches* are not specially quick growing and *Scots Pines* do best when planted small. For affording satisfactory shade quickly we are driven to *Willows* or *Poplars*, which both grow with exceeding rapidity. *Willows* do best when sets are planted rather than growing trees. More suitable permanent planting should be put in as well, however; the *Willows* and some, it not all,

of the *Poplars* may then be cut out when sufficient other shade is available.

To turn again to woodland planting, from the point of view of effect, one of the commonest mistakes is to plant too thickly. Thick planting of one particular species or variety to produce an immediate effect is, in the case of *Rhododendrons*, understandable and excusable, for they may be thinned before becoming overcrowded and will readily transplant to other quarters. The thick planting to which exception is taken is the overplanting of the whole area so that there is, at last, far more undergrowth than open woodland. From a collector's point of view and where space is limited this thick planting may be justified, but real woodland pictures are not possible under such conditions. The most satisfactory woodland gardens are oft-times those which contain least undergrowth. Even then it is not wise to confine such under-planting to shrubs. There is a host of herbaceous species which are wonderfully effective and which either do not restrict the view or confine it much less

than do evergreen shrubs such as the *Rhododendron*.

Flowering shrubs should never be planted in rows—either straight or curving—unless they are intended to form a hedge, in which case the fact that it is a hedge may be plainly indicated, or it may be made apparent on one side, the other side being disguised by an irregular massing of shrubs, including masses of the same variety, against it. In the more or less ordered planting suggested in our plan it is permissible to form clumps of a particular species or variety and leave it at that, but in the woodland a more natural arrangement should be sought, which means that the planting, even in the same group, will differ in thickness. Here it will be quite thick, yonder quite sparse, and on the margins little colonies of the same species may be found a short distance apart from the main grouping. Such planting is easy to describe but far from easy to arrange well. It can only be learned by a study of natural effects, and, even then, leaves a good deal of scope for imagination, since the effect when the plants have grown, will be entirely different from that which prevails when planting is first completed.

Reverting to the planting of the more ordered shrub garden, it is necessary to qualify to some extent the permissibility of planting single clumps of a species or variety. If for any reason one species stands out from the rest in the shrubbery to, as it were, form a *motif* in the arrangement, such planting will be far more effective if repeated at least once, though not on the same scale. In considering whether a species will stand out in this way it is necessary to bear in mind its flowering-time, since a kind which might be quite ordinary if it flowered,



A GROUPING OF AZALEAS.

say, in May, may be exceedingly prominent and noteworthy when it actually does flower a few weeks later. To take a concrete example, there are so many Mock Oranges that there is certainly no need thus to repeat any of the general run of species or varieties. *Philadelphus grandiflorus*, however, flowers when the other species are over,

and one might do worse than treat it as a unifying factor to be repeated in any border into which it is introduced

Berberis Darwinii and its hybrid, *B. stenophylla*, are outstanding shrubs, but there is no absolute necessity to repeat them, because there are several excellent forms of *stenophylla* which

are sufficiently like the typical plant to reproduce the effect.

In Fig. 2 is shown a planting scheme for a small garden. Trees and the larger shrubs are omitted from this scheme not only because of the space they take up but because it is impossible really to appreciate them unless one has space to stand far enough away to see them as a whole. In a limited space, too, they are likely to cast excessive shade. The only plant included which approaches tree stature is the slow growing *Eucryphia*. Even this might have a moderate growing *Cotoneaster*, such as *C. applanata*, substituted for it. The Broom family is a particularly valuable one for the small garden where the soil is suitable. The chief drawback to the race is that many of the most attractive forms are short-lived. This particularly applies to the forms and hybrids of the Common Broom, *Cytisus scoparius*. This shortness of life is often charged to grafting on a *Laburnum* stock, a practice which is certainly undesirable, but the truth is that the Common Broom on its own roots—from seed, for example—is anything but long-lived. It grows quickly and forms a rather open, irregular bush, the main stems become brittle and shew other symptoms of senescence, and if a snowfall does not wreck the bush, which it is likely to do, it ceases to make healthy growth and becomes dowdy and worn out. It is unwise, then, to make the clumps of these Brooms so large that their removal will make a very conspicuous gap or to place the forms of *C. scoparius* in juxtaposition. The White Broom, *Cytisus albus*, is, compared with the Common species, a long-lived plant. It usually produces a small forest of seedlings also, which grow happily enough in its shade, so that it is often possible to cut out an overgrown bush from a clump without in any way disfiguring the border, though for perhaps one season there may be a little shortage of flowers

Many of the shrubs suggested are too well known to need any reason stated for their inclusion. This will not be true, however, of *Ribes speciosum*, which, though long introduced, is not common in shrubberies. It is the most interesting member of a rather commonplace family. It does not make the splash of colour of the American Currant, *Ribes sanguineum*—few shrubs do—indeed, one would describe it rather as a Gooseberry than a Currant. The arching stems are heavily and picturesquely armoured, the foliage is neat and agreeable, and the long, tassel-like, bright crimson flowers very charming. The tassel-like effect is produced by the four red stamens which protrude the better part of an inch below the calyx. It has a reputation for being tender, but this hardly seems to be deserved, though it is true that it is long enough since we had a really hard winter.

Prunus triloba is best grown on a short leg. It is easy then to keep down the stock which, otherwise, is likely to smother the bush. The necessity for working it on an alien stock is the main objection to an otherwise admirable shrub. *Ceanothus Gloire de Versailles* is too well known to need praise. In cold localities it often fails unless given the shelter of a wall. *Gloire de Plautières* is hardier and should be given a trial in such case. It is not so fine in truss and, a shade deeper, scarcely so effective in colouring, but invaluable, nevertheless, where "Versailles" will not succeed. *Osmanthus Delavayi* is an admirable shrub for small gardens. Very neat and slow-growing, the tubular creamy white flowers are really beautiful, and though the shrub as a whole when in blossom could not be called showy, it is really effective. Quite young plants flower freely. It appears to be entirely hardy. The blossom is fragrant.

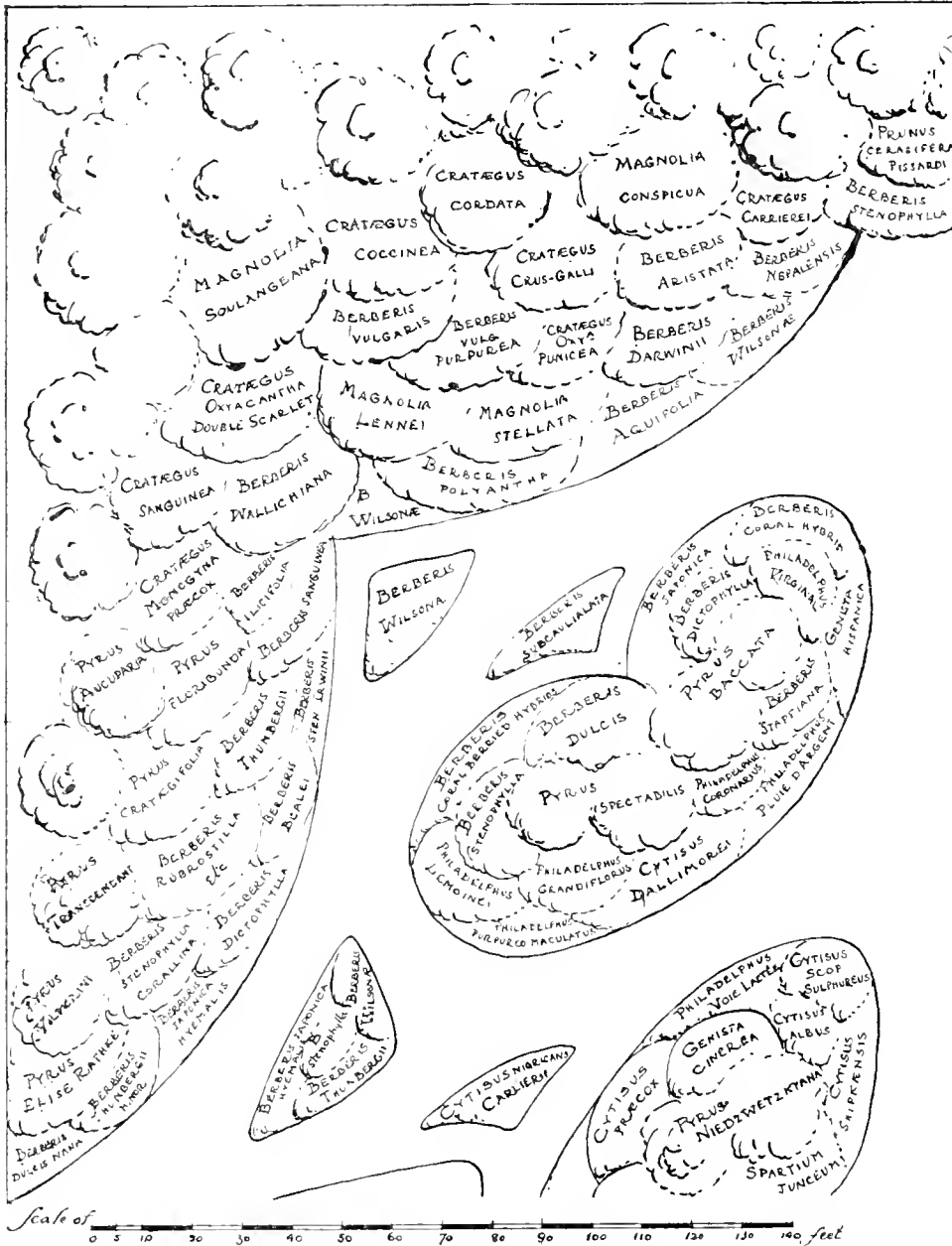


FIG. 1.—A CORNER OF A SHRUB GARDEN PLANTED "BY FAMILIES."

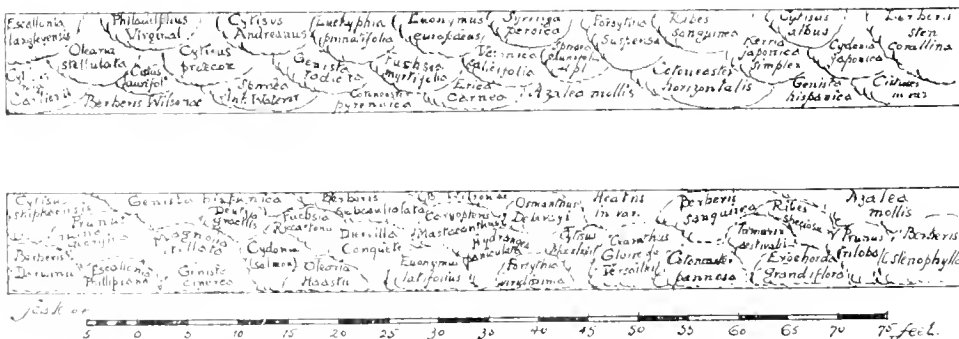


FIG. 2.—SHRUB ARRANGEMENT FOR A SMALL GARDEN.

THE CULTURE OF JAPANESE LILIES

AT this season of the year Japan-grown bulbs of the varieties of *Lilium auratum* and *L. speciosum* arrive. Dutch-grown bulbs have been on the market some time, but do not, size for size, give such good results as those from Japan. It is fairly easy to obtain good results with these Lilies for one year either outdoors or under glass. It is far more difficult permanently to establish them in the garden. Yet it is just this which most gardeners ardently desire to do. The novice is always proud of his spring display of bulbs, but to the seasoned gardener there is small joy in extracting from a bulb what another skilled grower has put into it!

Permanent success with these Japanese Lilies depends to very great extent, it must be admitted, upon climate. It is comparatively easy to persuade even *Lilium auratum* to flourish in South-Western Scotland. It is exceedingly difficult in the North Midlands and Eastern Counties, yet with skill and care it may be managed in most districts. The advice usually given is to plant the bulbs among Rhododendrons or other American plants. It is not possible to suggest a more likely situation, always provided that the Rhododendrons are in the half-shade which they love. It is quite possible to grow Rhododendrons successfully in full sunshine, if only the ground is well cultivated in the first instance and water is plentifully applied in times of drought. Cold water from the main or even ice-cold well water (so it be lime-free) will answer for the "Rhodos." Cold water, however, in hot weather is little better than sudden death to Lilies. Even sudden falls in the temperature, to which we are but too prone in this climate, are liable to prove disastrous. Their effects, however, may be largely overcome by screens of shrubs and trees. Fairly open woodland suits these Lilies well, but it must not be too dry nor yet in the least boggy. Wet land suits some Lilies admirably—the Panther Lily, *L. pardalinum*, to wit—but sharp drainage is essential for these Japanese kinds.

Of the several varieties of *Lilium auratum* some are more robust than others, and so more likely to establish themselves outdoors. Beginners with this flower should try first of all the typical form and the robust variety *platyphyllum*. Some find the latter easiest of all to manage, either outdoors or under glass. It is a handsome sort with fine foliage and large white flowers with a golden band down the centre of each petal. Of the *speciosum* (*lanicifolium*) varieties the easiest

is the form called *roseum*. *Melpomene* and *magnificum* seem to have less inherent vigour. *Speciosum album*, as generally sold, is a poor thing, but *album Kratzeri* is a fine and vigorous form and succeeds outdoors better than many of the highly coloured varieties. None of the *speciosums* has the abounding vigour of the beautiful yellow *Lilium Henryi*, which, except in colour, they so much resemble. It is, nevertheless, quite feasible to establish them outdoors even in the Midland Counties. Indeed, the writer has succeeded outdoors even with bulbs which had previously been forced!



A FINE SPIKE OF *LILIAM AURATUM*.

A moderately light but rich soil, well drained, in half-shade, preferably a westerly exposure with shelter from the east and north, will go far to ensure success. Bare ground is hateful to these stem-rooting Lilies. Some fairly light-growing annual or biennial plant should be encouraged to grow among them. The Pink Campions of our woodlands (*Lychnis diurna*) answer well, but there are many other things, including hardy Ferns, which are equally satisfactory; indeed, the Ferns are infinitely tidier and provide a better contrast when the Lilies come to flower, but they should not be planted in straight rows nor religiously spaced quincunx fashion. Let their arrangement correspond as nearly as possible with that in which Nature has a hand! The same advice will, needless to say, apply to the disposition of the Lilies themselves.

The *auratum* Lilies are more difficult to establish than the scarcely less magnificent *speciosum* forms,

but similar conditions are the best we can do for them. If there be boggy ground near and the air in summer is usually well charged with moisture, so much the better. Bitter winds are, perhaps, their worst enemy.

It is usual to "bed" the bulbs upon a layer of clean sharp silver sand and to scatter some around and over the bulb before replacing the mould. The idea is to keep at bay fungoid pests which might damage or destroy the dormant bulb. Once the bulb starts into growth the rapidly extending spike must take care of itself, but it is very soft at this time and easily damaged not only by disease but by animal agency. Experience shews that the sand *does* increase the chances of the bulb's success, but it must be quite clean and rather coarse to be beneficial. Some of the loamy materials which often masquerade as builders' sand could render no possible service and might easily do great harm.

The culture of Japanese Lilies in pots presents no real difficulty. The size of the pots used will depend very largely upon the diameter of the bulbs obtained. Five good-sized specimen bulbs may be grown in an 8½ in. Chrysanthemum pot and three large *auratum* bulbs may be accommodated in a roin. pot. Very often, however, it is necessary to use receptacles of handier size. A single bulb of *auratum* can be grown well in a 7 in. pot, and with very careful cultivation it is possible to get good results with one 6 in. in diameter. A 6 in. pot should easily bring one *Lilium speciosum* to perfection. Whatever sized pot is used, it is important to leave space for top-dressing as the stem-roots develop. If a very small pot is employed, it may be necessary to afford this extra space by adding a zinc collar to the pot-rim. The compost should consist of good sweet fibrous loam two parts, thoroughly decayed manure—spent hot-bed manure will do—one part and leaf-mould one part, with sufficient clean sharp sand to ensure porosity. A few lumps of charcoal are a useful addition. The drainage must, of course, be adequate. It is well worth while to sterilise the compost (by baking) before use. The opportunity which is afforded for treating composts against pests and diseases is the greatest advantage which the grower of hardy plants in pots has over his neighbour who trusts his stock to open border or rock garden. The pots should be given a good watering and be covered with leaves or other moisture-retaining material and placed in a frost-free pit or cold house until root action is well established. Once good growth below ground is under way, these Lilies will stand a fair amount of heat, but it must always be remembered that the greater the heat given the softer the growth becomes, and the more susceptible the plants get to chills from cold draughts or a fall of a few degrees in the temperature. Lilies, too, lose a great deal of character when forced and, unless for some special purpose, it is better to grow them on quietly but steadily in a cool greenhouse. They must not, in any event, be stood near hot-water pipes, as uneven heating and draughts of variable temperature are sure to occasion ill-health. A look-out must, of course, be kept for green fly, though these plants are no more subject to aphid attacks than the generality of greenhouse plants.

Top-dressing is important, and should have attention immediately the stem roots make their appearance. The compost used should be similar to that employed for potting, and should, when applied, be as nearly as possible the temperature of the house in which the plants are growing. After what has been written it is hardly necessary

to point out that the water given should be soft and rather higher than lower in temperature than the house. Water should be given sparingly until rooting is well established, though the soil must not entirely dry out as it might, with advantage, for Perpetual Carnations, for example. Afterwards, when in full growth, a great deal of water is required, but even then generous soakings "all round" are not desirable. The separate pots

should be watered "on their merits." Feeding may be practised—for plants in small pots it is essential—but it must be done with discretion. A light top-dressing of Clay's Fertiliser is often employed and answers well, or a very weak decoction of sheep-dung may be used. Weak soot-water is also beneficial. Always water with plain water immediately before giving the feed.

are ovate and as much as 5 ins. long. In pauperatus, the form illustrated, they are ½ in. or so long and narrow. There are several intermediate forms. The plants are uni-sexual, the flowers about ½ in. across, whitish in colour and very fragrant, the fruits reddish.

A FEW FLOWERING AND FRUITING BRAMBLES

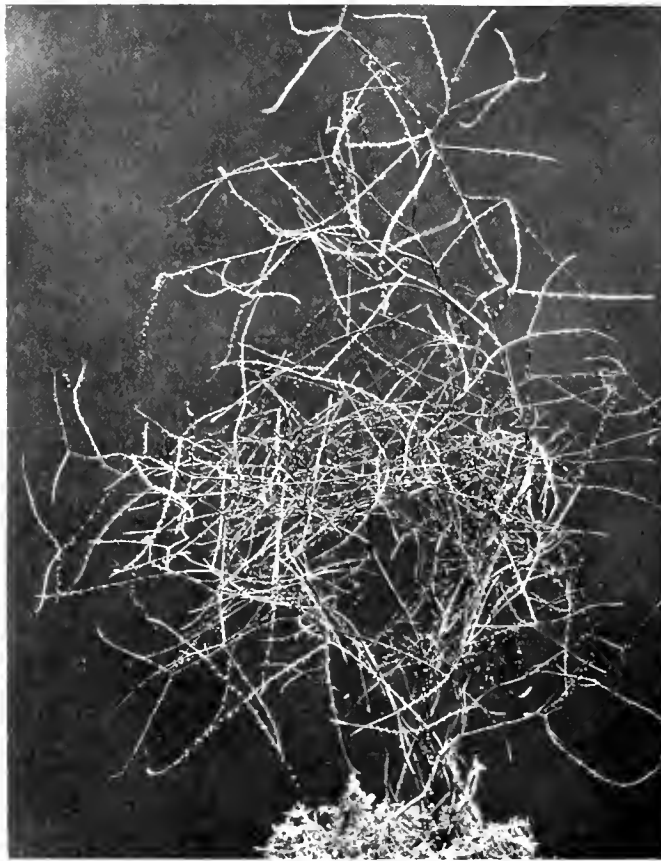
THE most beautiful of flowering Brambles is, beyond doubt, *Rubus deliciosus*. This reaches a height of 6ft. or 8ft., sometimes more, and has arching canes which peel effectively and are quite thornless. The rather black-currant like leaves are downy beneath, and, when young, downy on the upper surface also. The flowers are a couple of inches across and pure white. This is an eminently desirable but still not common hardy shrub.

The Wineberry, *Rubus phoenicolasius*, is a well known and beautiful shrub, admirable in winter with its ruddy many-prickled arching canes, and also in late autumn when the red and yellow fruits on the complicated hairy calyces contrast with the still expanding flowers. The flowers themselves are white or pinkish, but small and rather inconspicuous, but the coloured calyces render even the unopened buds beautiful. The foliage is adequate and improved by the whitish colouring of the underside.

Of the many species the fruits of which are called Blackberries the most handsome (and, incidentally, probably the best for eating and cooking) is the Cut-leaved Blackberry, *R. laciniatus*. The flowers are white and the fruits, which are produced in handsome sprays, glossy black, large and ornamental, but the beauty of the plant largely resides in the large and elegantly cut foliage, which reminds one of the dissectum forms of *Acer palmatum*. This Bramble may be allowed to mound itself over a rough framework of timber or shrubs of small value, or it may be used effectively on a fair-sized pergola. It is unsuited for "close quarters," as the long canes are very formidably armed.

The Low Blackberry, *Rubus canadensis*, with practically thornless shoots, is handsome when in flower in early summer. The flowers, about an inch across, are white, but there is a form, or perhaps a hybrid, with pretty pink blossoms.

Rubus bambusarum is an evergreen climber which, when first introduced twenty years or so ago, made something of a sensation. It is



THE ALMOST LEAFLESS "WAIT-A-BIT" BRAMBLE, *RUBUS AUSTRALIS PAUPERATUS*.

interesting enough, and when trained up a pillar or tree trunk quite handsome, as the slender branches arch themselves very prettily. The flowers are insignificant. The beauty of the plant, such as it is, consists in the arching branches already referred to, the black fruits (edible) which are rather well displayed, and the whitish felting beneath the leaves which contrasts well with the deep green of the smooth upper sides. *R. Henryi* is in many respects very similar.

The Lawyer Vine, or Wait-a-bit of the Australian bush, *Rubus australis*, is a very variable species, the most remarkable form of which—var. *pauperatus* is, fortunately, the hardiest. Even this, however, is unsuitable for cold districts. The stems of all varieties are very slender and carry a very considerable armament of quite small hooked prickles. In the typical form the leaves

SOME DWARF RHODODENDRONS

FOR grouping in fairly open woodland, for the margins of shrubberies, the rock garden or mixed border, the Rhododendron family includes a large number of dwarf species and hybrids which are among the most precious shrubs we possess. The majority of them are hardy, and easy to grow to perfection in any lime-free loam in sun or half-shade with some shelter from wind. All that they require, where peat is absent, is a little leaf-mould or really old cow manure at the time of planting and later on as an occasional top-dressing. A cool root-run and one that does not dry out in spring or summer is highly desirable, for the fine, hair-like surface roots are very susceptible to drought. At the same time the drainage must be good, and while the soil is retentive it should be of a loose and friable vegetable nature.

Omitting, owing to the exigencies of space, the mollis, Ghent, rustica and Japanese groups, usually classed as Azaleas, there still remains a wide selection of dwarf species and hybrids of great beauty and interest, nor will the average gardener find many of them beyond his pocket. Moreover, as such plants as these are almost invariably sent out budded, and as they move better than most things, a display may be confidently expected the first season and this without detriment to the shrub. I need hardly add that many of the Rhododendrons mentioned below are often known as Azaleas.

Usually the earliest to bloom with us, *R. præcox* is also one of the most charming. A hybrid between *RR. ciliatum* and *dauricum* it is a neat-habited evergreen of 3ft. to 5ft., with deep green, glossy leaves and terminal trusses of pretty rose-purple flowers which often appear a clear shell-pink in the subdued light of January and February, when the shrub is frequently in full flower. An excellent variety for grouping in woodland or where it can be afforded some shelter from hoar frosts and biting winds, both of which are liable to injure the blossoms.

Of the two parents of *R. præcox*, *R. dauricum*, a January bloomer, does not appear to have a good reputation and it has not been tried here, but *ciliatum*, with its fresh green, hairy leaves and usually large flowers in a lively apple-blossom pink-and-white is reliable and good. This, however, also needs a sheltered corner, for the big blossoms, produced in spring in loose clusters, are apt to be broken by wind.

Another early bloomer is the beautiful Chinese *R. ledifolium*, also an evergreen, with dense, hairy foliage and close, shrubby habit. This fine species, which reminds one of the old *Azalea indica* of greenhouses, and of which it is probably a form, is perfectly hardy here, though a sharp March frost may prove mischievous with the breaking buds. It is, nevertheless, one well worth the risk of occasional disappointment, its milk-white trusses being indescribably lovely. The wise will give *R. ledifolium* a westerly exposure, and, if possible, the protection of some deciduous tree.

Perhaps the most weather-proof of all the smaller Rhododendrons is *R. (Rhodora) canadense*, a deciduous little shrublet and most faithful bloomer. It usually breaks its plum-coloured buds in March

or April and the slender twigs are soon bearing a veritable constellation of gay, rosy-purple flowers with long, protruding stamens. An easy doer in almost any moist soil. Before this pretty thing is over, and it remains in flower for several weeks, another *N. American*, *R. Vayesi*, opens its daintily crimped white flowers which are tastefully touched with pink. These flowers appear before the leaves, the species being deciduous. It is perfectly hardy, a reliable bloomer and, though it attains the stature of a small tree in its native soil, it is a very slow grower with us, making no more than 2ft. to 3ft. in many years.

R. racemosum is deservedly a favourite for it is extremely hardy and though it flowers in early April the blossoms (pale blush) are in such compact trusses that they rarely suffer from spring frosts or wind. This is an evergreen from some of the highest altitudes of China, with box-like leaves with wide underparts and a stature of about 4ft. There is a variety (*roseum*) with flowers of a deeper pink. The sturdy little Himalayan, *R. glaucum*, though not often seen, is worthy of wider popularity. It usually escapes the frost here, since it does not expand its rosy blooms until May is well in. The individual flowers, about 1in. across, short, bell-shaped and fragrant, are borne in corymbs of seven to ten. *R. glaucum* does not appear to grow to more than about 2ft. The leaves, which are comparatively large, are of dark, glossy green above and white beneath.

In the woodland there is something peculiarly attractive about *R. punctatum*. It is a low, spreading evergreen with smooth, dark green leaves and neat terminal trusses of bloom in a clear porcelain pink. Being a North American it is perfectly hardy and one that does very well with considerable shade. To *RR. punctatum* and *hirsutum* we are indebted for *R. myrtilifolium* which has inherited about an equal share of each parent's features. The foliage is rather smaller and more compact than in *punctatum* and the flowers considerably less in size and of a fuller pink or rosy red. This is also an easy-tempered bushling almost anywhere. But as much cannot be said of the *punctatum* × *ferrugineum* hybrid known as *R. arbutifolium*, or Wilson's Rhododendron. In our experience this delightful little evergreen, with pointed, glossy, pale green leaves, is everything that could be desired in one place and a disgruntled, dead-alive affair in another, even when the latter is, in our estimation, precisely like the other. The fact is, with us it inherits *ferrugineum*'s habit of dying-off piecemeal unless, as I have suggested, we can by chance hit upon a spot of which it approves. Our two best plants of *R. Wilsonae* are now thriving in soils and positions totally different from one another. The one is crowded in among a mass of *Erica ciliaris* and other Heaths where there is moisture and leaf mould in plenty, the other is isolated in the driest, poorest and hottest corner of our propagating garden, usually delegated to such "cast-offs" as may be "stuck-in" there to do or die as they please. Yet both plants are equally vigorous. But, despite its uncertainty, Wilson's Rhododendron remains one of the best of the dwarfs, one worth much patience.

RR. ferrugineum and *hirsutum*, both known by the name Alpine Rose, or Alpenrose, come from the higher elevations of the European Alps and are therefore perfectly hardy little rusty-leaved evergreens of about 18ins. the latter being the more hairy of the two. Both of them are apt to disappoint by dying-off in the manner described and neither of them flower so freely with us as *R. Wilsonae*. These species seem to nurse a longing for the atmosphere of their lofty native home, as do some other alpine plants, and I am not at all sure that they are good enough to merit much patience. *R. hirsutum* is one of the few members of the genus

which will do in limy soil and in this respect may be likened to that precious gem and most capricious of plantings, *R. (Rhodothamnus) Chamæcistus*, whose fatherland is the limestone of the Tyrol and whose "spiritual home" is somewhere in the disappointed hearts of a legion of English rock gardeners. This choice shrublet of a few inches has existed in a grudging sort of way, for some years in our garden but, though it puts forth shoots of hope every summer, they are like unto the "hopes that triumphed and fell dead," for they come to nought. Whether this fascinating infant wants lime or whether it detests it I dare not venture to decide in the face of the divergence of opinion that exists on that question; but this much may be said with certainty. It is not lime or the absence of lime which are the chief causes of failure with *R. Chamæcistus*.

With the approach of summer *R. viscosum* of the shady wood-bottoms of America adorns its leafless branches with fragrant white flowers, whose stickiness gives the species its specific title and the English name of "Clummy Azalea." This is a good-tempered, hardy little shrub in a suitably cool place and the same may be said of one of its off-shoots, *R. azaleoides* (*fragrans*) a semi-deciduous hybrid of 3ft. to 4ft., whose white, lilac-tinted blooms with the scent of Honeysuckle appear about the same time as those of the foregoing.

A good word must be said for the evergreen, *R. anemum*, even if its multitudes of tiny, vivid crimson flowers do strike a magenta hue in some lights, for it is very charming in itself and to it we owe much for a long list of lovely forms in shades of orange, salmon, flesh, scarlet and crimson. A. T. I.

A SELECTION OF SAXIFRAGES

(Continued from page 614.)

THE Tufted or Cushion Saxifrages—those belonging to the *Kabschia* group are among the choicest and most beautiful of rock garden plants. Most are early-flowering and some of them blossom at a season when what little other flower there is comes from small bulbous plants. Early January will often find *Saxifraga Burseriana* in flower. This is a very beautiful, if variable, species with pure white flowers on bright red stems a couple of inches tall. The foliage is very glaucous and spiny. Variety *major* has larger flowers and is usually a little later to flower than what is generally recognised as the type plant. Altogether larger in flower and foliage is the form called *Gloria*, which is a little later to flower, has very substantial blossoms, but very little colouring to the flower-stems, which is unfortunate, as the bright stems greatly enhance the appearance of the typical form. Rather shorter of stalk, another large-flowered form is called *magna*. Other distinct varieties are *macrantha*, about the last to flower, *tridentina* with wavy petals and *crenata*.

Saxifraga marginata is another magnificent early white-flowering species which bears its

flowers in small heads of five to seven. It usually flowers in March. The edges of the rosettes are encrusted with lime, hence the specific name. This is a particularly interesting and charming plant. *S. Boryi* is very similar but later to flower. *S. Rocheliana* is also similar but smaller. The foliage is even more noticeably encrusted and the flowers are borne fewer together, two or three being the usual numbers. Variety *coriophylla* has broader leaves and ivory white flowers, and there is also a yellow-flowered form which is still uncommon.

The golden yellow *Saxifraga sancta* is far less interesting in appearance owing to its deep green mossy foliage. It is, however, a useful, easy and free-flowering species; the small, rather cupped flowers are borne thickly together in heads. *Saxifraga Pseudo-sancta* is so similar, not only in appearance but in botanical characteristics, that it is hardly worthy of specific rank. It is later flowering. *S. juniperifolia* is less showy than either, but has in the eyes of some people the very considerable merit of being difficult to grow.

Another admirable yellow-flowered species is *S. Ferdinandi-Coburgi*. The foliage is slightly



A LOVELY FORM OF BURSER'S SAXIFRAGE, *S. BURSERIANA CRENATA*.

glaucous and the flowers are borne in heads four or five together. This is an easy and altogether desirable species, but it is not often obtainable true from nurseries.

Saxifraga cæsia is a tiny species with closely silvered leaves and creamy flowers clustered loosely together in heads of two or three. *S. aretioides* is a glaucous-foliated kind with yellow blossoms. There is a form larger in all parts and with primrose-coloured flowers known as *primulina*. *Saxifraga tombeanensis* is another silvery foliated species with white flowers. It is now considered to be only a form of *S. diapensioides*, a tiny species, also with silvery foliage, which bears disproportionately large flowers several together on, for the rosette, tall stems in April.

With *Saxifraga lilacina* we come to a species bearing rosy lilac flowers. These are borne singly on inch-long stalks, and the foliage is tiny but silvery. It is by no means free to flower.

The hybrids of these Kalschia *Saxifragas* are, on the whole, easier to grow than the parent species, and some of them are extraordinarily beautiful. It is doubtful, indeed, whether the average gardener realises how many of his favourites are, in fact, hybrids. Perhaps the best known of them all is *S. apiculata*, next to *S. Burseriana* perhaps the earliest to flower. Its primrose yellow flowers are borne three or four together, and are produced with remarkable freedom. The foliage is rich green, but by no means so dark as that of *S. sancta*, between which species and *S. Rocheliana* it is said to be a hybrid. There is a pure white sport from the typical plant in commerce which is equally desirable.

Saxifraga Burseriana crosses readily with *S. aretioides*, and there are at least two such hybrids in commerce. *S. Boydii* is very early-flowering and has fairly large deep yellow flowers. *S. Faldonside* has larger, better shaped flowers than the last but of softer colouring. It is a far easier plant to cultivate and rapidly grows into nice tufts. *S. Boydii alba* is unnamed. Though quite a good plant and an easy doer, it bears little resemblance to *S. Boydii*.

Saxifraga Cherry Frees is a hybrid between *S. Burseriana* and *S. sancta*. It differs only from *S. Elizabetha* in being a more vigorous grower with a better constitution. The rosettes are green, the flowers sulphur yellow and the stems tinged with red.

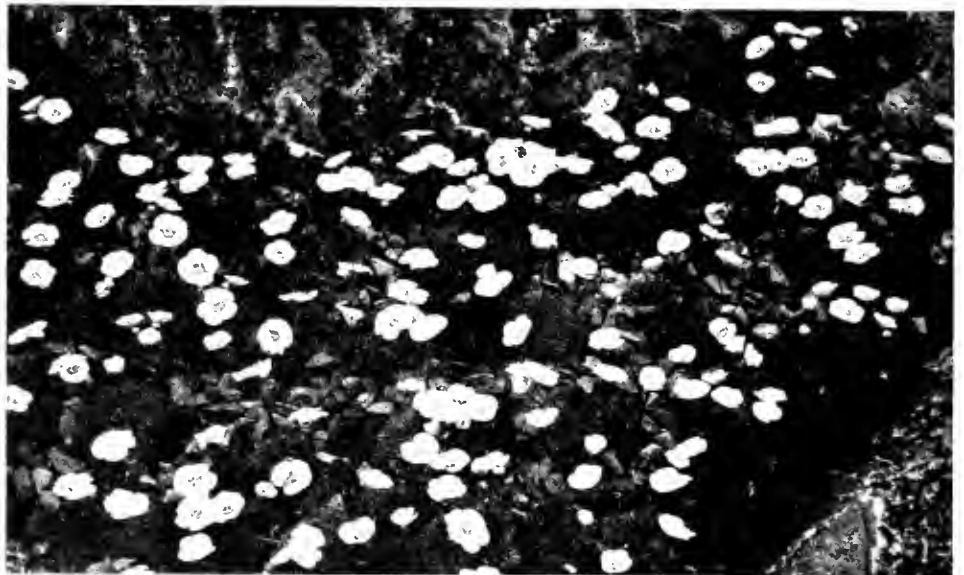
The plant known as *S. Irvingii* is said to be a cross between *S. Burseriana macrantha* and the English species *Frederici Augusti*. It features *Burseriana* habit, but has bright bluish-coloured blossoms. *S. bursiculata* is said to be the result of crossing *S. Burseriana* with *S. apiculata*. The flowers are white and substantial and of some size, and the flower-stems are stiffer than with *S. apiculata*. The foliage is slightly glaucous.

S. Haager represents the result of crossing *S. sancta* with *S. Ferdinandi-Coburg*. It is in the way of the last mentioned, and is an exceedingly easy and valuable plant. *S. Pauline* (*Burseriana minor*—*Ferdinandi-Coburg*) almost features the last-named species. The flowers, however, are pale yellow. This is an easy doer and very charming.

Saxifraga Petraschii (*tombeanensis*—*Rocheliana*) forms a very dwarf cushion of glaucous rosettes from which flower-stems spring freely bearing three or more large white blossoms on each head in March. This also is an easy plant to do and especially lovely under glass. *S. Solomonii* (*Burseriana*—*Rocheliana*) is a good doing plant which might be described as *S. Burseriana* with two or three flowers to each flower-stem.



THE PINKISH SAXIFRAGA IRVINGII.



ONE OF THE BEST OF THE HYBRIDS, SAXIFRAGA FALDONSIDE.



ADMIRABLE IN FLOWER AND FOLIAGE, *S. MARGINATA*.

THE GENUS ALONSOA

A very Useful Race of Hardy Annuals.

HAVE you ever got down a whole lot of cyclopedias, dictionaries of gardening, books about annuals and such like, and read in them about Alonsoas? I have just done it, and now I am wondering whether I am on my head or my heels. I did think I knew orange from scarlet and scarlet from orange, but now I doubt if I know black from white, and I see as I never saw before the force of W. S. Gilbert's famous couplet in "H.M.S. Pinafore":

"Things are seldom what they seem,
Skim milk masquerades as cream."

I have grown what I believe to be *Alonsoa acutifolia* in a fair-sized patch in the garden this year. I have observed it in shade and sun, in early morning and late in the evening, on Sunday and weekday, and it never entered my head to call it anything but orange, yet I look it up in "Speer's Annual and Biennial Garden Plants," and find under *acutifolia* "Scarlet flowers in June." I am very doubtful indeed about the June part of the description, and until I consulted Nicholson's Dictionary and found *linearis*, which is as like *acutifolia* in colour "as two peas," I would have been prepared with my bottom dollar to wager Speer was wrong about his colour. And then when I read on in this good man's book and come to jaw-breaking *Warszewiczii* where, to add insult to injury, I find it is said to have "small but dazzling orange-red flowers," I was just "done brown." In desperation I turned to that excellent little encyclopedia of Mr. Sanders. He is very brief. "*Linearis*, scarlet"; "*Warszewiczii*, scarlet." Speer, by the way, also calls *linearis* scarlet. Now let *Warszewiczii*, *linearis* and *acutifolia* be what colours they may, nothing is more certain than that they are not, as the unwary might be led to suppose, all alike. *Linearis* and *acutifolia*? Yes, but not the unpronounceable one. I have probably told the tale before, but it is so good it bears repeating. A friend of mine one summer gave an old lady in his village some plants, which she set and tended with great care. Later on in the year as he was passing he called and asked her which she liked best. "Oh! Mr. A, that beautiful red one, Alfonso Whiskey-and-Soda."

I have never grown *incisifolia* (unless as *Warszewiczii*), *linifolia*, *Mathewsii* or the white form of *acutifolia albiflora*, so I can say nothing about them from personal experience, but I have grown a very pretty pink variety *Mutisii* which I am unable to find in either Bailey's American Cyclopedic or in Nicholson's British Dictionary. It is noted, however, in Speer, where the flowers are described as chamois-rose. Personally, I would have called the usual typical colour a real pink, with no rosy inclination whatever. The rose touch is the exception, but when it is there *Mutisii* is a new creature, and can claim an equal share in the glory of the race with its old hard named rival. Miss Jekyll can never have seen the very latest out in *Mutisii* as we have it here at White-well or I feel confident she would not call *Warszewiczii* "the best of the several kinds of Alonsoa" in her book "Annuals and Biennials." Instead of one I put three in the front rank: *acutifolia*, a rich ruddy orange; *Mutisii*, a pink; and *Warszewiczii*, a real scarlet. They are all much of a muchness in their habit of growth, developing with age a multitude of long thin stems clothed at frequent intervals with narrow, saw-edged leaves and bearing flat, irregularly lobed blooms of any size between a sixpence and a shilling in

their upper region. The plants improve as the branching increases, and the sparse show of their youth is soon forgotten in the goodly multitude of flowers to be seen in their maturer age. A large clump in a herbaceous border or a big isolated bed on a lawn filled with them are the main purposes for which Nature has fitted them, but they make excellent and, at present, uncommon pot plants for a conservatory or very cool greenhouse if treated like *Schizanthuses* or *Clarkias*, from which families they are a welcome variation in their colour of flower and habit of growth. The easiest way to grow Alonsoas is to treat them as half-hardy annuals and raise them in heat in order to promote early flowering. In such a summer as the one we have just passed through it was very plain to see how advantageous it was. They take time as it were to get into their stride. I have sown them in the open where they are to flower, in April or early May with very fair success in a warm summer, and doubtless in more southern

and warmer parts of our island out of door sowing may be regarded as a quite safe and satisfactory proceeding. Pinching is not necessary except for pot plants. If the young plants are given plenty of room when they are put into their flowering quarters they naturally branch a good deal, and it is only when all these branches come into flower bearing that Alonsoas are at their best. The usual strains grow from 18 ins. to 2 ft. in height, but there are pigmy strains as well I am told, but I have never seen them. I am always very doubtful about "warts," as my old man John invariably called them. Some, like the pretty Cambridge blue *Nemesias*, are quite all right, but others are more fit for the manure heap than a bed or border, e.g., Cupid Sweet Peas. Alonsoas may be propagated by means of cuttings, but they come so readily from seed that I should doubt its ever being worth while doing unless it is desirable to increase some very special variety.

JOS. LPH. JACOB.

WINTER WOOD & SUMMER FOLIAGE

TREES as a rule display the beauty of their bark at all seasons of the year. Such are the Beech and the Birch, for instance. Even these, however, shew to greatest advantage their beauty of proportion from trunk to branch and so to branchlet and tiny twig when stripped of their

have another claim to consideration, resting on their picturesquely twisted growth. Most of the Willows are handsome in their winter dress—the Sallows because of their ever-developing male catkins and the Osiers because of their coloured woods, ranging as they do from greenish yellow to orange and crimson and again to



FLOWERS AND BRIGHT BLUE FRUITS OF *VIBURNUM DAVIDII*.

summer dress. Shrubs with beautiful bark display it, if at all, only in winter. Now few of us have space at disposal to devote a stretch of ground solely to winter effect. It is wise, therefore, to consider how to arrange the grouping so that winter effect may be obtained without detriment to summer beauty.

Let us, first of all, consider the trees and shrubs most valuable for winter effect. Of trees the Birch and Beech have already been mentioned, the latter too large and too greedy a feeder for the garden proper. In addition to these the Hazel must not be overlooked, for though it has no special beauty of colouring, its multiplicity of twiggy is effective—especially so when laden with hoar-frost. The Apple and the Judas Tree

the bloom strewn purple of *Salix daphnoides*. Among shrubs there is a great diversity of coloured wood ranging from the bright red bark of the Dogwood to the white of certain Brambles and the bright greens of the Broom family (both *Cytisus* and *Gemsta*) and of *Kerria* and *Leycesteria formosa*. The green arching canes of the latter to shew to best advantage must be freed from the older wood, which is brown and uninteresting. The current year's wood of the larger Mock Oranges, such as *Philadelphus coronarius* and *P. grandiflorus*, is at once interesting and warm looking in its bright paper brown. The wood of the smaller sorts is actually similar—so is that of the *Dentzias*—but on the smaller scale they are far less effective. The arching canes of the

Diervilla (Weigela) are also handsome in a similar way. The arching downy canes of the small-tollaged evergreen *Cotoneaster pannosa* are effective in winter, especially as they are wreathed at that season with rather dull red berries.

Further colouring is to be obtained if wanted by utilising evergreens which change colour in winter, such as the Mahonia, *Berberis Aquifolium* and the Wand Flower, *Galax aphylla*, on the one hand, or various kinds of *Arbor-Vitæ* (*Thuja*) and *Cryptomeria* on the other. The former class provide rich crimson and orange shades to an extent varying considerably with soil and season, the latter tones of russet brown, purple and maroon.

With such a wealth of material, remains only to use it to best advantage. The Moek Oranges,

Brooms and *Kerria* are readily utilised, since they are shrubs we should select for their blossom, even though they had no other merit, nor need the handsomely flowered and fruited Mahonia or the gorgeously berried Barberries present any greater difficulty than that of bearing them in mind when planning, but such things as the Dog-woods and *Leycesteria* need care if the summer effect is to be satisfactory. The common red *Cornus sanguinea* is, especially when cut to the ground each spring, as it should be to produce its maximum of winter effect, rather a coarse-looking plant for the shrubbery. This drawback may to great extent be overcome by employing the silver variegated form or the handsome golden form called *aurea Spathii*, though neither of these is quite so handsome of wood as the typical plant

obtain some dung for hot-beds, which were made use of in the way already described, and the second generation of cuttings grew like nettles. We had an abundance of good plants by the time they were wanted.

The Council of the Society were evidently satisfied with my work under difficulties, for I had the honour of receiving from them a handsome present.

WILLIAM TAYLOR.

RAPID METHODS OF PROPAGATION

WHILE cuttings emit roots without a change of air? During the fifties of the last century, when only seventeen years of age, I was responsible for the production of 100,000 bedding plants, having previously served under five different foremen in the same department. This was at Shrubland Park in Suffolk, made famous by the work and writing of Donald Beaton. Some of the routine then practised is a puzzle to me even now. Perhaps there is nothing extraordinary in what will be mentioned first, but more will follow which, to me, does not appear so simple.

In the first place, cuttings of such plants as Verbenas, Petunias, Heliotropes, *Tropæolums*, *Ageratum*, etc., were inserted in boxes, covered with glass, and made perfectly air-tight by pasting paper on the edges of the glass and the boxes. These were then placed in a position in the propagating or any other warm house during winter or early spring, where no direct sunlight could reach them and were not otherwise shaded. They remained till there was a sign that the formation of roots had commenced. Then a slit was made in the paper all round, and after another day or two the glass was slid away from one end about a quarter of an inch, and this was done in the evening. When another day or two had passed the glass was removed altogether. This was also done in the evening after the house was closed. I had previously been taught by my several foremen, who included Scotch, English and German, that the glass must be lifted and made dry, or turned every morning. This is not necessary if the cuttings are placed where the fluctuations of temperature are only slight, as on the floor of the house. Very little moisture will then arise.

The cuttings of plants already named are not long in emitting roots, so there is nothing marvellous so far; but I went a step further and tried the same plan with Perpetual Carnations, Tea Roses, Gardenias, etc., and it succeeded admirably. Roses were from plants grown indoors, with the wood partly hardened, say, just forming a flower-bud. Carnations were mostly slips from flowering stems. If inserted in February, these would remain without ventilation three weeks or sometimes a little longer. If they were kept closely covered a day or two too late, the result would not be satisfactory, but attended to at the proper moment not a leaf would be lost.

When cuttings other than my own, and where perhaps the plants had not been growing so freely, were used, the results were not so good. When there is visible growth before a callus is formed there is very little chance of success.

Another plan with Verbenas, which were then very popular, and of which perhaps twenty

thousand would be required, was to make an old-fashioned hot-bed (many modern gardeners scarcely know what this is), place a frame on it, insert the cuttings in boxes, and keep them in full sunlight as late as the end of April. The steam rising from the fermenting material, in the condition old gardeners called sweet, would afford sufficient shade and roots would be formed in about forty-eight hours. I could not say what the maximum temperature would be, but certainly 120° or more, and they were kept perfectly close till growth commenced. If a light had been opened during the middle of a bright day, the cuttings would immediately have collapsed.

I found that Verbenas need not be cut to a joint, which, of course, makes a great difference in the time required for the operation and the quantity produced, which are considerations when many thousands are wanted. There are many other soft cuttings which could be rooted in the way I have mentioned on the unshaded hot-bed, supposing that stable manure can be obtained.

I practised the same express system of propagating Verbenas and *Tropæolums* at Chiswick in the spring of 1861, when I was responsible for the production of plants to furnish the beds at the R.H.S. gardens at Kensington, which were opened on June 10 in that year.

The summer (?) of 1860 was the wettest and coldest I have ever known. Stock plants grew very little, but insects, especially thrips, flourished amazingly, and I did not know so much about killing them as I do now. There was a trial of Verbenas of all known varieties, but they were a complete failure. To complicate matters, there was, on Christmas Eve, 34° of frost, and the boiler of the house containing my principal collection of bedding plants, including *Geraniums*, gave way; but, thanks to my dear old friend Barron, who was then general foreman, not a plant was lost. The house was covered early in the morning with thick canvas, and when the temperature rose to about 30° the plants were freely syringed with cold water. Fortunately, there was sufficient sun-heat to raise the temperature of the house above the freezing point and not too rapidly.

Many trees of *Cedrus Deodora* soft, high, in Glendenning's nursery at Turnham Green, were killed outright. The winter of 1858-59 was quite as severe and these trees escaped, but that came after a hot summer, the summer of Donati's comet, a never to be forgotten sight.

When March, 1861, arrived, the Verbenas, especially Purple King, which was wanted in quantity, were a sorry spectacle, and Mr. Eyles, the superintendent, was afraid we should have nothing worth planting out. I persuaded him to

A WHITE BUTTERCUP

THE plant of which I wish to write is generally catalogued and grown in nurseries and gardens as *Ranunculus rutæfolius*. It takes people a long time to adopt some of the authoritative names for plants which we have known for a long time by names now superseded by botanists, although still in use in gardens. In the case of this plant too, the proper title of *Callianthemum coriandrifolium* or *C. rutæfolium*, is more cumbersome and difficult for the many. Whatever name the reader may choose to adopt, the plant itself is not unworthy of cultivation in the rock garden. The late Mr. Reginald Farrer had but a small opinion of this flower, but I do not think that he could have known it well under the best garden conditions or he would probably have modified his verdict to some extent. The concluding paragraph of his reference is more kindly, however, than his previous remarks, founded upon the plant in its native habitats, where it is undoubtedly coarse. It must be admitted that it is not the best of the *Callianthemums*, but it is worthy of consideration. In the poor, stony, gritty, sandy soil which seems to bring out its attractions much better than a rich one, it is a neat, low-growing, rather trailing plant with fine fern-like foliage, giving rise, I suppose, to its specific names of *C. coriandrifolium* and *Ranunculus rutæfolius*, resembling as it does that of the *Coriander* or some of the *Meadow Rue*s. From this tuft of leaves, only 3 ins. or 4 ins. high, in poor soil, are produced trailing stems bearing fairly large daisy-formed blooms with narrow ray-florets of dull white and with a greenish centre. It reminds one, so far as its blooms go, of those of *Pyrethrum uliginosum*, but not quite so white in their rays. It is not a flower which will bring forth ecstatic remarks from the many, but it is one which has many points of charm when treated as it should be. Regarding its treatment we may at once abandon the idea of cultivating it in rich soil, such as it generally has at home, where it often grows among the turf, with plenty of moisture beneath. I have never found it so satisfactory as on a flat terrace of the rock garden, a little above the ordinary ground level, fully exposed to the south sun, and growing in loam with plenty of sea-sand, grit, and stones, and firmly planted. In such a compost and with the ample drainage the plant likes, we can keep it dwarf and neat; but under such conditions it may suffer from drought in spring and summer when it is coming into blossom or even when in flower, and it is desirable to water it freely and pretty frequently with pure water at that time. With such treatment it will surprise those who only know the *Callianthemum* in rich soil, where it looks comparatively coarse and unattractive. It is not an easy plant to propagate, indeed, it is risky to divide it, even in the case of fair-sized plants. It can be divided successfully and an examination of its roots would suggest that it might be increased by root cuttings. I have not been successful with these, however, and I do not think the roots respond to this practice. Seeds are the best means of propagation, but are not easily obtained.

S. ARNOLD.

CORRESPONDENCE

THE TWELVE BEST SHRUBS.

I ENCLOSE two lists, each of a dozen shrubs.

The shrubs on the first list are for an everyday soil and climate, and on the second for a warmer and more peaty soil. I have grown all that are mentioned in ordinary soil, but lost several during the very hard winter we had some years ago. I have also grown all the twelve in the second list in Ireland and they grow there much better in practically nothing but peat.

I have not included Rhododendrons, Azaleas, Roses or climbers, as they are classes by themselves and one could easily get twelve out of any one of them.

The trees in the lists are *Fremontia californica* and *Magnolia stellata*, but both of them flower just as well as shrubs. I have *Fremontia californica* on a 5ft. wall well pruned back and it flowers freely every year. *Magnolia stellata* flowers when 2ft. or 3ft. high and spreads shrub-like and is easily kept as a shrub.

Perhaps a Scotch reader would oblige with the names of a dozen selected shrubs, hardy in the colder parts of Southern Scotland and not near the sea. Hardy there, they would be hardy anywhere in England. It would be well to get a list of good shrubs hardy anywhere in England.

List I.—*Forsythia suspensa*, *Eucryphia pinnatifolia*, *Philadelphus Virginal*, *Ceanothus Gloire de Versailles*, *Magnolia stellata*, *Berberis stenophylla*, *Buddleia variabilis Veitchiana*, *Cydonia japonica cardinalis*, *Daphne Mezereum*, *Syringa* (Lilac) *Mine*, *Lemoine*, *Spiraea Eumalda* Anthony Waterer, *Exochorda grandiflora*.

List II.—*Embothrium coccineum*, *Magnolia stellata*, *Trienspidaria lanceolata*, *Zenobia pulverulenta*, *Kalmia latifolia*, *Eucryphia pinnatifolia*, *Fremontia californica*, *Buddleia variabilis Veitchiana*, *Cistus ladaniferus*, *Clethra alnifolia*, *Romneya Coulteri*, *Desfontainea spinosa*.—J. D. C.

FROM CHILI.

A FEW weeks ago (November 23 to be precise), that beautiful shrub, *Desfontainea spinosa*, was a blaze of colour, the gorgeous tubular flowers in a bold crimson-scarlet and yellow being as large and as numerous as they were in July; but *D. spinosa* had overstepped its mark, for on the night of the above date there came a white frost (6°) which turned every blossom to ashes. It must not, however, be assumed that this handsome shrub is peculiarly susceptible to frost. We have grown it for at least fifteen years and never once have its holly-like leaves suffered the slightest injury. It even came scathless through the terrible ordeal of early 1917. Among the best of the many good things we have had from Chili, *D. spinosa* is a shrub not to be overlooked by anyone whose climate is not very bleak. Perhaps one would not be far wrong in saying that it might be planted with confidence in any locality in which *Berberis Darwinii*, another Chilean, succeeds.—A. T. J., *N. Wales*.

A BEAUTIFUL WEEPING ELM.

WHILE reading the informative article on "Pendulous or Weeping Trees," by "A. O.," on page 579, I was expecting mention of *Ulmus montana pendula* Camperdowni. The tree is better known than its name, for I have noted a considerable number in various gardens and in different counties during the past twenty years, but only in one nursery, and think that others must be distributing this beautiful tree, considering the wide area over which it is now distributed between its original home, Camperdown House, near Dundee, and Cornwall. I was recently shown

a specimen from the latter county and was asked for its name. The tree is much smaller or more compact than the much older *U. m. pendula*, with a regular and umbrella-shaped head. The leaves, on the other hand, are very much broader than those of the older weeping variety, and they completely cover the branches of the tree while it is in leaf, whereas the leaves of *U. montana pendula* are directed below most of the branches, leaving the latter exposed to view. The trees of the Camperdown Weeping Elm that I have seen are sometimes planted in gardens, occasionally in courtyards, and in one case a tree was planted on either side of the front garden gate. A little trimming was given to keep the gateway clear,



TROPAEOLUM POLYPHYLLUM AT NEW PLACE, LINGFIELD.

but otherwise these small weeping trees gave no trouble. The great spreading arms of *U. m. pendula* require more room.—J. F.

TWO PERENNIAL TROPAEOLUMS.

I HAVE noticed several references to *Tropaeolum polyphyllum* and *speciosum* in THE GARDEN during the past season, and there are doubtless many who are desirous of growing them who have met with failures in the past. As regards *T. polyphyllum*, most failures to establish it have been caused by shallow planting. The roots should be not less than a foot deep in stiff soils, and in lighter soils and well drained positions they should be quite 18ins. down. In an old-established bed they range themselves from 1ft. to nearly 3ft. in depth. We have here a narrow border of about 60ft. in length where it has been established for several years. The subsoil is clay, and I have followed the roots down to 2ft. 6ins. in depth. This is not a good position for it, as it flowers in June and dies back at the end of the month, leaving an awkward blank which needs a good number of plants to be kept on hand to give another display. In former years, when bedding-out was not favoured here, we

planted thickly with the hardy *Gladioli*, and for an autumn display sowed Candytuft, thus keeping the border bright over a long period. In 1919 an attempt was made to eradicate the *Tropaeolum*, but this proved impossible owing to the many roots of climbers in the border. By 1921 the few roots left had again monopolised the border, and I enclose a photograph of part of the border taken last June shewing the great mass of bloom. This should encourage those who have hitherto looked upon it as a difficult plant to grow. *T. speciosum* is a much more difficult species here in the South, but I feel sure there are many gardens where it might be tried with a fair chance of success if its special requirements are given due consideration, and disturbance after planting, its especial abomination, avoided. Like many of the Lilies, it loves to have its heels in shade and its head in

full light. This species is a shallow rooter, and the long, fleshy roots are very brittle. Here it thrives best in peat under the shade of tall Rhododendrons and under other shrubs with plenty of decayed leaf-mould near the surface. Lime, as mentioned by one correspondent, appears quite unnecessary, as our soil is quite free from it. Why I think it could be more generally grown in Southern gardens is the fact that it has existed for years in every possible position here. Pieces of it are to be found all over the place among shrubs, herbaceous plants and in the kitchen garden borders under bush Apple trees, but the digging in the borders breaks up the roots into too small pieces to store sufficient food to enable it to throw up a strong flowering stem. The best display is given when growths of the previous season come through a very mild winter unharmed, which has occasionally happened here. Those who try it must not be too impatient for results, but allow it time to form strong roots. Seeds are, naturally, slower than roots and need special treatment. Drying kills them, therefore they must be sown as soon as ripe or stored in soil constantly kept moist for a year, as they require this time before germination takes place.—H. C. WOOD, *New Place Gardens, Lingfield*.

MICHAELMAS DAISIES.

FOR many years past two varieties of *Asters* have been known for their late blooming, viz., *Aster grandiflorus* and *A. Tridacanti*. During 1921 Mr. Amos Perry of Enfield marked a seedling which flowered later than is usual in the *Novi-Belgii* type, and this year is flowering equally late. Flowers were marked as opened on September 16, and to-day (December 2) perfect flowers may be gathered in perfect shape. This new seedling has been named *Winter Gem*. The flowers are a little larger than a shilling, pure white, with conspicuous yellow disc, and from 2½ ft. to 3½ ft. tall, with perfectly upright rigid stems and free branching habit. As a late-blooming border plant it will prove invaluable.—W. L.

CHRYSANTHEMUMS AND WINTER ROSES.

IN the account of the Autumn Show in Paris I was disappointed to see how little mention was made of the more artistic treatment of the flowers than is commonly seen in England. The quality of the cut blooms is higher in England, I think, at Chrysanthemum shows, but we can learn something from the French methods of arrangement. Not being a Chrysanthemum grower myself I do not venture to name what are the finest varieties, but there is one Japanese variety called *Tokyo*, with tubular petals and pretty pink colouring that entirely won my admiration, whether as a big cut bloom or a dwarf, cut-back pot plant with smaller flowers. I shall hope never to be without it and add it to the list of half a dozen or so that are indispensable. Continued fine sunny weather and a steady moderate temperature has produced the best crop of autumn or winter Roses I have yet seen. The Roses that have opened in a steady temperature between 65 and 45 have a perfection of petal that is striking, and the time that individual flowers last at this season is another great charm. The fierce suns and summer heats have their drawbacks in this climate. The winter-flowering *Gladioli* are now common objects on the flower stalls in the market, but they need some improvement yet in the size of the flowers and their disposition on the spikes; still, with late Chrysanthemums, their big sheaves of flowers make a very good effect. That cruel wind frost of two years ago has left its mark, and the beautiful *Acacia podalyriifolia* and the truly regal *Dahlia imperialis* are but rarely seen, so few survived that night. We now look forward to the stately *Montanoa bipinnatifida* to grace our Christmas garden. E. H. WOODALL.

PEAR TREES FOR ORNAMENT.

GARDEN lovers generally look forward to the great wealth of colouring in leaf and fruit which characterises many trees and shrubs during the autumn months. I should like to call attention to the varied and beautiful colourings of the leaves of some varieties of Pear. It was suggested recently in *THE GARDEN* (page 541) that fruit trees be pressed into service "to help the garden picture." Referring to Pear trees, the writer suggested that varieties of vigorous habit, such as *Catillac* or *Pitmasdon Duchess*, be used. He went on to give a list (on page 542) of those varieties with which he had had some success as standard trees on a light and warm soil. This list included, in addition to the two sorts mentioned above, *Williams' Bon Chrétien*, *Largouelle*, *Beurre Diel*, *Petite Marguerite*, *Conference* and *Dun-bleau*. These varieties, while serving as a guide, might be compared with those which have been found to be most reliable for the production of autumn tints when the trees are grown

in heavy soil. As a result of a number of observations upon bush-trained trees growing in such a soil it was found that the following seven varieties were most dependable in giving good coloured foliage, viz., *Triomphe de Vienne*, *Beurré Capiaumont*, *Beurré Jean van Geert*, *Souvenir du Congrès*, *Fertilité*, *Colmar d'Été* and *Durondeau*.—ROBERT H. JIFFERS.

AN ADVANCE IN SWEET PEAS.

WONDERFUL, of which I send a picture, is one of the best of the Sweet Pea novelties. It is bright scarlet-cerise, a shade deeper than *Royal Scot*, and like this variety, absolutely sunproof, in fact, the more sunshine it receives the better is the colour. There is this difference, however,



SWEET PEA WONDERFUL.

between the two varieties; the buds of *Royal Scot* are lighter and do not develop the true, rich colour in unfavourable weather or if opened in water, while with *Wonderful* the blossoms are scarlet, even in the bud stage. This is a decided advantage in a sunless season such as the past one has been or if the flower spikes are cut in a partly opened condition. I grew twenty plants of this variety for trial during the past season. It lacks nothing in vigour and gives a good proportion of four bloomed sprays, while during the few sunny periods which it enjoyed its brilliant colour was very telling. The long rows that were growing for seed were in full bloom when I visited Essex in late June, and they presented a wonderful sight. It is also as useful as *Royal Scot* for greenhouse culture, so is a recommendable novelty for all purposes.—N. L.

A NEW RACE OF CHRYSANTHEMUMS.

IN Mr. Edward H. Woodall's interesting letter on page 572, under the above heading, he refers to Messrs. Vilmorin's exhibit at the Paris Autumn Show last year of some very dwarf single Japanese Chrysanthemums. He recommends English gardeners to go there this year and satisfy themselves as to their worth. It is not certain whether Mr. Woodall saw these varieties himself last year or whether he is speaking from the photographs of them, but at any rate last year several of us English Chrysanthemum men were at the Paris Show and I have been also there again this year. Messrs. Vilmorin's exhibit is usually a colossal advertisement, whether they show in Paris or elsewhere. It contains named specimen plants of Chrysanthemums of many forms and sizes. It includes a variety of pot plants, one in particular a little brassy yellow Pompon called *Gerbe d'Or* they have used as an edging for many years.

Another family of dwarf decorative pot plants, always well represented at the French shows, is what we call the "Cap" family, but which is known to French growers as the *Baronne de Vinols* family, for there are probably twelve or fifteen sports from the parent or later issue. *Blanche Poitevine*, the name of which is persistently mangled by English growers in spite of all protests, is another valuable dwarf decorative Jap much in demand. This year while in the Paris Show I was accosted by a Channel Island enthusiast who had periodically come there to see what the variety, of which he had heard a good deal, was like. We found it in the Vilmorin group—and he was content.

But the "very dwarf single Japanese" referred to by Mr. Woodall puzzle me. He is not very explicit and although my experienced eye of forty years acquaintance with the Chrysanthemum at home and abroad is quick to detect any-

thing new or striking at a Chrysanthemum show, I cannot quite make sure what is meant. Last year at the Paris Show, which was also held in the *Palmarium* of the *Jardin d'Acclimatation* there was rather a pretty display of a lot of free-flowering small single Chrysanthemums arranged on each side of the steps leading to the great hall where the Vilmorin exhibit was then set up. These flowers very gracefully covered the two large pieces of artificial rockwork that adorn that end of the *Palmarium*. There were two well known English Chrysanthemum experts with me then, Mr. H. J. Jones and Mr. Thos. Stevenson, but I do not think any one of us was very much smitten with these novelties. Perhaps it was because we are all big-bloom men. This race is indeed a new one. I doubt if it will ever find much favour here—but that, of course, depends—floral fashions vary. The

popularity of some of the decorative Dahlia rubbish is ample proof of that. These new singles were raised by, or at any rate, sent from Japan, a few years ago by M. Foukouba, the gardener to the Emperor of Japan. My friend, M. Philippe Rivoire, grew and distributed them. They are very likely to please the French taste, but whether they will please ours remains to be seen.—C. HARMAN PAYNE.

ROSE RAISERS PLEASE NOTE !

THE season is quite as irregular in Rome as it appears to have been in England. After a drought lasting from April 25 until August 30, with great heat—104°—and hot winds, it rained somewhat more than usual in September and October. On September 28 I gathered a good bunch of Violets, and by October 15 one could find Violets,

Paper White Narcissi, Dahlias, Chrysanthemums, Apple and Pear blossom in quantity, Wallflowers, Cosmos, Orange blossom and, of course, very fine Roses. There is to be a municipal rose garden in Rome at Villa Borghese, and many of the big French rose-growers have promised to send plants. Perhaps some English or Irish rose-growers would also care to do so. They should be sent by parcel post to avoid a very long journey, addressed to the Director of Public Parks, Cav. Nicodemo Severi, Casino Dell' Orologio, Villa Borghese, Rome. He is the president of the newly formed horticultural society in Rome, which has just held a large and successful show. Rose-growing is somewhat backward here, but the new rose garden will probably change this and shew people what an excellent flower it is for this uncertain climate.—A ROMAN READER.

with the species that is found on Apple trees there does not seem to be an absolute certainty about the matter one way or the other. Anyway, if a badly infested Hawthorn hedge is near your orchard, it would be worth while to keep an eye on it as well as on the trees.

Mussel scale is found chiefly on trees that have been allowed to get their barks encrusted with



APPLE BLOSSOM WEEVIL.
(Greatly enlarged)

Passes the winter in the adult form.

APPLE TREE PESTS IN WINTER

WITHOUT some knowledge of the life-history of these pests it is impossible to treat the trees properly. Consider, for instance, the very common pests such as woolly aphis (American blight), the apple blossom weevil, the apple sucker, the small ermine moth

rubbish in and around the orchard must be burnt; hedge bottoms must be thoroughly cleaned out, also ditches; moss and lichen on tree trunks must be removed, as well as all loose pieces of bark, under which the weevils like to hibernate. A winter wash and, later, a lime wash will destroy numbers. Tits are certainly useful, and should

be encouraged to feed in the orchard; whatever may be said against them during the fruiting season, their services are undoubtedly valuable in winter.

The apple sucker lays its eggs at the end of the summer and dies. These eggs do not hatch out till March, and therefore between that time and the previous November, when egg-laying stops, endeavours should be made to destroy them. Paraffin emulsion is useful, both at the beginning and at the end of winter; also a lime-wash that will coat the twigs and prevent the hatching of the eggs should be applied just before the

lichens and moss. Trees with clean trunks are not often attacked. Winter is the best time to start measures of control, and in cases of bad attacks the trees should be occasionally sprayed from November onwards into February. Woburn wash or a home-made oil emulsion will answer all purposes satisfactorily if spraying is done thoroughly. For a few trees only it is best to buy an oil that will form an emulsion with water; there are various oils of this description on the market. To make 10 gallons of wash use 1 gallon of paraffin and nearly 2lb. of soft soap. The history of the mussel scale that attacks Apple trees is, briefly, as follows: The wingless nites are hatched about May. For a few days they walk about exploring the tree on which they find themselves; after that they choose a feeding-spot and fasten themselves to it by inserting their "trunks" into the bark. Having once accomplished this they never move again; apparently they lose the power of moving and henceforward they live for eating or, rather, sucking. Each insect begins to form a sort of covering, and this grows into the well known mussel scale. Towards the end of the summer they mature,



WOOLLY APHIS AND SEVERAL MUSSEL SCALES.

and the mussel scale; all these carry the race over the winter months in different ways, and therefore the same remedy will not always apply in more than one case.

The woolly aphis seems to be gradually solving the problem of dispensing with the male form and, therefore, also with eggs. The principal form is the wingless, viviparous female, which goes through the winter hiding in cracks in the bark or else travels down to the roots and hibernates there. To destroy these insects, which produce the numerous summer broods, a very efficient winter wash is needed, either a Woburn wash or a home-made alkaline wash made up of 2½lb. of caustic soda to 10 gallons of water. The bluish white "cottonwool" is seen on badly infested trees all winter, and this is, of course, a proof of the presence of the insects. The "cottonwool" exudes in long threads from the backs of the insects, both young ones and adults.

The apple blossom weevil passes the winter as an adult insect and is extremely difficult to find. The remedy here is an indirect one. All

buds begin to swell. The lime-wash is made with 15lb. of lime (best quick, in lumps) to 10 gallons of water, and spraying may be done to within about a week of the opening of the buds. This spraying must be done rather late, or it may be washed off by rain and the eggs exposed as before. Where the apple suckers are numerous it is better to run the risk of spoiling some of the leaf and fruit buds in order to make a thorough clearance of the pests.

In the case of the small ermine moths it is no use waiting till the larvæ are doing their worst, in July, before steps are taken to eradicate them. All sorts of winter washes are useful in getting rid of the tiny caterpillars which are hibernating on the twigs and bark. It is not easy to kill them, as they are exceedingly well protected. The eggs are laid about August in compact masses, each egg being firmly fixed to the next, and the larvæ, when they hatch out the following month, take shelter under the egg-roof, not coming out to feed till spring. It should be remembered that there is a species of small ermine that attacks hawthorn, and it is possible that it is identical



SMALL ERMINE MOTH.

The eggs are on the trees all the winter.

lay their eggs—about eighty to each insect—and die. The eggs are safe under the scale and remain there all the winter. It may readily be understood that a very thorough application of the winter wash is necessary in order to reach the eggs. Pears and Currant bushes may be infested if they grow near the Apple trees, as the insects are liable in the first few days of their life to be blown off the trees and carried elsewhere.

M. H. CRAWFORD.

H. J. ELWES, F.R.S.

BY the death of Henry Elwes a famous personality passes out of the horticultural world. For the past year or more his health had given his friends cause for anxiety, and when, a few months ago, he ceased his regular visits to London, it was evident the end was in sight. Of vigorous constitution, Elwes had hardly known a day's illness in his life until, a few years ago, he underwent a serious operation, from which he recovered in wonderful fashion.

Elwes never spared himself and, finding the call of the world irresistible, was continually on the move. His journeys were not undertaken in the pursuit of pleasure, but for some definite object, such as the quest of animals, birds, butterflies, plants, trees and shrubs, of all of which he was a keen student and an insatiable though discriminating collector. The search for these took him to almost every habitable part of the globe, and at times when travelling in foreign countries was not the comparatively simple business it has since become. Elwes was one of the first Europeans to enter Tibet, and before he went there he had made his way into Sikkim, a country which is still virgin ground to all but a few white men. While there he was vouchsafed a sight given to but few mortals—the destruction of an area of sub-tropical vegetation by an avalanche.

Like all great travellers, Elwes was a born *shikari*, and wherever he went was soon on friendly terms with the natives; even the Ainu took to him. His handsome, commanding presence, resounding voice, tireless energy and ready grasp of languages, no doubt contributed to this faculty, to which he owes much of his success as an explorer. As in the case of so many men, Elwes found the call of plants and trees irresistible, and for more than thirty years past he had devoted himself to both with unflagging zeal. The foundation of his interest in plants was laid in 1880, when, still in the thirties, he was so attracted to the study of Lilies that he published a critical monograph on the genus, and did it so well that, though now out of date, the book remains the standard work of reference on so much of the subject as it covers. Forty years later found him planning a supplement to the book. Like all true gardeners, Elwes had a catholic taste, and at one time or another every hardy plant worth growing, as well as a host of tropical and tender species, must have passed through his hands. Apart from Lilies, he was an authority on Fritillaries, Pæonies, Cinnam and Nerines, as well as Yucca, while his houses were crammed with tropical and sub-tropical bulbous plants. He often said that of all plants, monocotyledons attracted him most.

Elwes had a *flair* for good plants and a characteristic impatience of garden trash; but he was too restless, too much occupied with affairs and too much hampered by the inhospitable climate and *terrain* of his garden on the cold oolitic limestone of the Cotswolds, to be a great cultivator. Consequently his judgments on plants were not unerring; but, by personal visits he knew almost every garden worth knowing in Great Britain and Ireland and so was often able, as he was quick, to adjust erroneous impressions derived from his own cultural experience. In his horticultural work Elwes had the inestimable advantage, usually denied to gardeners, of personal observation of many species in the countries of their origin, and he probably saw more of the flora of the world than any amateur of his day. He never returned from a journey abroad empty handed, and horticulture is indebted to him for the introduction of many fine species.

Long after his forceful personality has been forgotten, Elwes' name will be gratefully remembered for his *magnum opus*, "The Trees of Great Britain and Ireland." This entirely satisfying work, in the preparation of which he had the felicitous collaboration of Dr. Augustine Henry, contains all that anyone—amateur or scientist—needs to know about our trees. In the closing year of his life he initiated the movement which resulted in the recent resurrection of the *Botanical Magazine*.

Of cultured mind and, to those who knew him intimately, of singular and attractive character, Elwes was accustomed to take a broad view of life, and his natural impatience of the restraints convention imposes on individuals and committees, showed itself sometimes in a momentary superficial *brusquerie*, of which he was unconscious; but his only object was the advancement of the cause for which he was working. An occasional tendency to allow personal prejudices to warp his judgment was balanced by a generous reversal of such judgment directly it was shown to be mistaken. [G.]

SIR I. BAYLEY BALFOUR, F.R.S.

TO both botany and horticulture the passing of Sir I. Balfour is an irreparable loss, for although he had recently retired from the official posts he had held so long and so worthily at Edinburgh, there was still much for him to do. While living, too, he was a perennial source of inspiration and encouragement to others—a priceless virtue—and there is no one to take his place.

Sir Isaac was both receptive and responsive to a degree, and it was those qualities combined with his practical knowledge, and, above all, the unselfish way in which he placed that knowledge at the service of others, even complete strangers, which attracted to him gradually all that was best in the world of botany and horticulture in our islands, as well as much that lies beyond them. A genuine interest in plants was passport to his friendship, and once admitted, contact brought continual refreshment to the eye and the mind.

Sir I. Balfour's point of view was that of the pure scientist, yet he always wore a pair of very human spectacles, and therein in great measure, lay the secret of his success. He covered the whole range of scientific botany as well as practical horticulture, and took as deep an interest, shall we say, in the hairs on the ovary of a minute *Primula* from some Tibetan mountain, as in the proportion of grit he thought the same plant would need in its pocket on the Edinburgh Rock Garden.

In the last few years of office Sir I. Balfour worked at greater pressure even than in the days of his prime; he burned both ends of the candle and did it solely for the advancement of science and horticulture. His position as head of a great national garden, to which a multitude of newly discovered plants came for cultivation, enabled him to distribute innumerable species, which, in ordinary way, would not have reached the hands of amateurs in general until after a long period of waiting. He used his powers wisely, generously, and to the immense advantage of practical horticulture. In his writings, as in his lectures, Sir I. Balfour was profound, but never prolix. The precious gift of clarity of expression was strongly developed in him, and he exercised it to such purpose as to infuse life into the dried leaves and withered flowers of some herbarium specimen from the other side of the world. His Master's lecture, "Some Problems of Propagation," should be in the hands of every gardener who propagates his own plants; while his enumerations of the newer

Gentians, the genus *Nomocharis*, *Primula* and above all *Rhododendron*, are classical.

Sir I. Balfour was appointed to Edinburgh in 1888, going thence from Oxford University, where he had occupied the Sherardian Chair of Botany for a few years. In the thirty-four years which have elapsed since then he has practically re-made the Garden—one of the oldest in the world. As we see it to-day, the Garden is a monument to the untiring devotion and wise administration of a man whose name must always be held in high honour in the realms of botany and horticulture.

[G.]

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Early Potatoes.—As soon as the selected tubers are sufficiently sprouted planting may be commenced. The best results are obtained when a heated pit with a southern aspect can be made use of. Early Potatoes grown thus appreciate a little bottom heat and there is nothing better for providing this than a good bed of oak and beech leaves. Place about a foot of light, fairly rich soil on the bed and plant the tubers 16ins. to 18ins. apart from row to row, allowing 10ins. between the sets. Failing such a structure as mentioned, good results may be obtained from pots, or from narrow borders in cool houses, or even by erecting temporary quarters on staging, so long as plenty of light and air can reach them.

Parsnips.—Unless the site occupied by this crop is wanted early in the New Year, the roots are better left in the ground, for the flavour is undoubtedly improved after being seasoned with frost, etc. To make sure of sufficient available roots should a frosty spell be experienced, cover a portion of the bed with litter or leaves and there will then be no difficulty in lifting the roots when required.

The Hardy Fruit Garden.

The Fruit Room requires an occasional looking over for the removal of all decaying fruits, which, if left, will soon contaminate others. It may often be arranged that kitchen Apples, even though a little unsound, can be used immediately, and it is a good plan when overhauling quantities of late cookers to place all with slight blemishes together. Keep the room cool and maintain the atmosphere in as even a state as possible.

Raspberries.—Established plantations should be cleared of any unnecessary canes and have the remainder made secure to their supports, if the work has not already been done. Having finished tying, etc., clear the bed of any weeds, then lightly prick up the surface of the soil, mulching the old stools at the same time. Newly planted canes should also be mulched, but not cut down until February. Provided the soil is in workable condition it is not too late to plant, but if unfavourable weather intervenes, postpone planting until February. When making a selection of sorts, some canes of the perpetual variety Lloyd George should be included, and this, being a strong doer, should be given more room than other varieties.

Fruits Under Glass.

Tomatoes. Winter fruiting plants require an even temperature of about 56 to 60 at night, according to the outside conditions, and about 10 higher during the day. Maintain a buoyant atmosphere with the aid of a little air whenever the climatic conditions are favourable, and avoid atmospheric moisture entirely. The only moisture necessary in the house is that given to meet the plant's requirements. Always err on the side of shortage, if at all. Should a batch of young plants have been raised from an early November sowing they should be kept growing on a shelf well up to the glass in a temperature which does not fall below 55 at night.

Cucumbers. We are passing through the worst few weeks of the year for successful cucumber growing, and everything possible should be done to assist the plants carrying fruits. An occasional light rich top-dressing is always beneficial and should be regularly applied. See that all the light possible reaches the plants by having the outside of the house washed occasionally to free it from fog dirt, etc. Keep the roots of the plants in an even state of moisture and let the air be always a little moist. The temperature may run between 65° and 75 for day and night.

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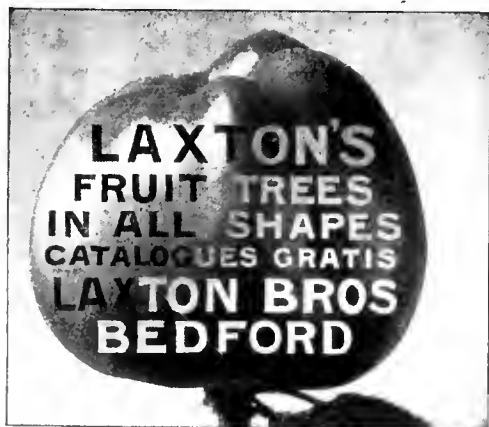
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 Japanese Nurseries, CHIDDINGFOLD, SURREY.



PERENNIAL PLANTS FROM SEED

UNQUESTIONABLY the average amateur does too little seedling raising. Admittedly there are some plants which it is quite unprofitable to raise from seed—many shrubs, for instance, which may be readily increased from cuttings and of which a comparatively few plants are required. Yet even here the traveller who leaves the beaten track is the one who makes discoveries. Only the other day your Editor had the controversy about the colouring of *Rosa Moyesii* explained to him. This extraordinary and handsome Rose refuses, it seems, to come true from seed, indeed, seedlings from what we have always considered the typical lurid red form throw a preponderance of plants bearing rose pink flowers and approximating to those of the supposed "species" we know as *Rosa Fargesii*. It would seem, therefore, that RR. *Moyesii* and *Fargesii* are but colour forms of one species. Interesting information and worth knowing! *Rosa Moyesii*, however, is readily increased by cuttings or layers and had not it been raised from seeds in the first instance, we might have been long enough finding out the truth of the matter.

Very few amateurs will trouble to raise shrubs from seed even for the sake of finding out peculiarities such as the one mentioned, but there is no reason why every flower-loving amateur should not raise hardy perennials from seed. The gardener who has never raised anything more perennial than *Coreopsis grandiflora*—most gardeners raise that from seed—will do well to try his "prentice hand" on some comparatively easy and really interesting race of plants which will so whet his appetite

as to give him patience to await results with families even more interesting, but distressingly slow to germinate. Encrusted and Mossy Saxifrages are suitable, so are Aubrietias. All these produce a wonderful variety from seed and, given the proper compost, are free, easy, and fairly quick to raise from seed. The Aubrietias and Mossy Saxifrages are quickest. They should flower in just over twelve months from the date of sowing the seeds. The raising of Encrusted Saxifrages was explained in our issue of 9th inst., page 614. Any fairly porous open soil will suit Aubrietias or Mossy Saxifrages. The seeds may be sown at any time now in pans in a cold greenhouse or unheated frame. If given appreciable heat there is great risk that the young plants may "damp off." "Damping-off" is caused by a fungus (*Botrytis*), which seems particularly fatal to cruciferous plants. The Saxifrages should not be exposed to too strong sunlight.

Heaths are very interesting to raise from seed. There seems no reason to doubt that ericaceous

plants generally are unable to grow unless a special fungus is present in the soil. The matter has been investigated specially in connexion with the *Rhododendron*, but from the facts we may infer that this disability attaches to most members of the Heath family. In the case of mature plants no doubt the fungus is carried in their roots into new soil. They, consequently, do quite well in lime-free loam without peat or leaf mould, which are apparently fungus-carrying materials. It will be noticed, however, that self-sown seedlings never spring up in such soil. An abundance of good seed is produced each year and if a patch of soil a foot or so square be taken out adjacent to the Heaths and filled in either with well decayed leaf mould or peat, multitudes of seedlings will spring up in the prepared patch, though the surrounding loam never produces one.

The most interesting Heaths to raise from seed are *Erica cinerea*, any good and unusually coloured variety, *E. Tetralix*—again a variety is better than the typical form and the Irish Heath, *Daboecia polifolia*. The seeds should be mixed with a pinch of fine silver sand and be sown in pans of almost pure peat or alternatively a mixture of light but mellowed loam and leaf mould in equal proportions. The pans should be watered before sowing and no attempt need be made to cover the seeds, which should be kept dark and fairly close until germination takes place, which will be within a few weeks. All the plants will be interesting and it is quite on the cards that something really good and worth sending out may turn up. The Irish Heath is a very variable plant and by cross-pollinating



A GOOD FORM OF VERONICA SPICATA.

Daboecia polifolia (purple), with the globose white form, usually listed as *D. p. globosa albo*, a great variety of globose forms may be obtained of rosy-lilac and silvery-lavender shades of colouring.

Other shrubs really worth raising from seed are the Brooms. The white Portugal Broom, *Cytisus albus*, comes readily from seed, indeed, it self-sows itself freely in the border. The Common Broom (*C. scoparius*), naturally, reproduces itself freely from seed, so does the very distinct form called the Moonlight Broom (*C. s. sulphureus*). The crimson and gold variety *Andreanus* throws about 25 per cent. of plants approximately true to type and a further considerable percentage of which the flowers show more or less crimson staining on the golden blossoms. The hybrid Brooms, such as *præcox*, *kewensis*, *Beani* and *Dallimorei* are interesting when raised from seed. Most of the seedlings revert more or less to one or other parent. These Brooms may be sown in drills outdoors, but they are rather tap-rooted so that if only a few are wanted it is as well to sow them in pots so that they may be transplanted into their permanent quarters with the least possible disturbance.

Of herbaceous perennials, Gaillardias are readily raised from seed and have a better constitution when so obtained. The soft yellow self forms, such as *Lady Rolleston* and *E. T. Anderton*, are rarely obtained, however, and the seedling plants in general are more useful than interesting. The Goat's Rues—forms of *Galega officinalis*—come fairly true from seed, though such as *Her Majesty* and *Hartlandii* are apt to lose in size of blossom and truss. The form called *G. o. rosea fl. pl.* comes quite true from seed and, strangely enough, self-sows itself freely. Geum species come true from seed, but the fine form of *Geum coccineum* called *Mrs. Bradshaw*, which is almost certainly identical with the older *Winchmore Hill* variety, rapidly deteriorates from seed, so that many stocks of this plant now in existence, are little, if any, better than an ordinary form of *Geum coccineum*.

German Irises are only worth attention from seed if one is prepared to follow up one's results and engage in plant breeding systematically. A very small percentage of the seedlings attains the standard of the selected parents, let alone surpasses it.

The Veronica family is not a particularly suitable one to raise from seed, but it is interesting to raise a batch of *V. spicata*, for instance, if only to note the immense diversity in habit, spike and foliage among the seedlings. Some of the plants will be quite white and woolly, others entirely glabrous.

Carnations and Border Pinks are interesting to raise from seed, though even the skilled plant breeder will, in the case of the former beautiful flower, hardly get one plant in three or four thousand which, after trial, appears worthy of a name! The Alpine Pinks present a better field to the amateur. Cross-fertilisation is here well worth attempting as some of the "mules" so obtained are both interesting and beautiful. *Spencer Bickham*, which we illustrate, may be taken as a case in point. This represents a cross between *Dianthus cæsius* and the Maiden Pink, *D. deltoides*. The grassy foliage is somewhat like that of *cæsius*, but smaller and closer, while the flowers obviously take after those of the Maiden Pink.

Anemone seeds are, generally speaking, slow to germinate, but many interesting forms have come to light in this way. The Japanese Anemone, for instance, has been greatly improved from seed of late years, but a batch of seedlings from a good variety always give interesting forms and, no doubt, further improvement is still in store.

Delphiniums everyone should obtain from seed. For grouping among shrubs, for soils not specially congenial, or for other situations where the plants may have to rough it somewhat, or, again, where stature is of the first importance, seedlings should be employed. There is no comparison between the vigour of a seedling and that of even the most robust of named varieties.

(To be continued.)



AN ADMIRABLE JAPANESE ANEMONE, *A. JAPONICA CRISTATA*.



HYBRID DIANTHUS SPENCER BICKHAM.



INTERESTING TO RAISE FROM SEED, *DABOECIA POLIFOLIA*.

WINTER FRUITING TREES AND SHRUBS

BY EDWIN BECKETT, V.M.H.

ONE is always pleased to read notes on trees and shrubs, such as those by "A. O." (THE GARDEN, December 9, page 615), especially if one happens to be an arboricultural enthusiast, but as I scanned these I felt that either too great a restraint had been exhibited, or that the writer had somehow or other failed to view some of the very best shrubs and trees that retain their fruits well on into the winter period, when flowers are not, and the bright seed pods thus become doubly useful in the shrubberies. In the hope of relaxing somewhat the otherwise rather hard and fast line set down (of course, I admit that this "line" may only be a child of my imagination), I have had a glance around to seek such additional wares as we can offer from Aldenham, and I do so in the hope that others of your readers will carry on the effort (if the Editor will kindly permit), and also relate their happy possessions, for I fancy the whole tale would indeed be interesting reading.

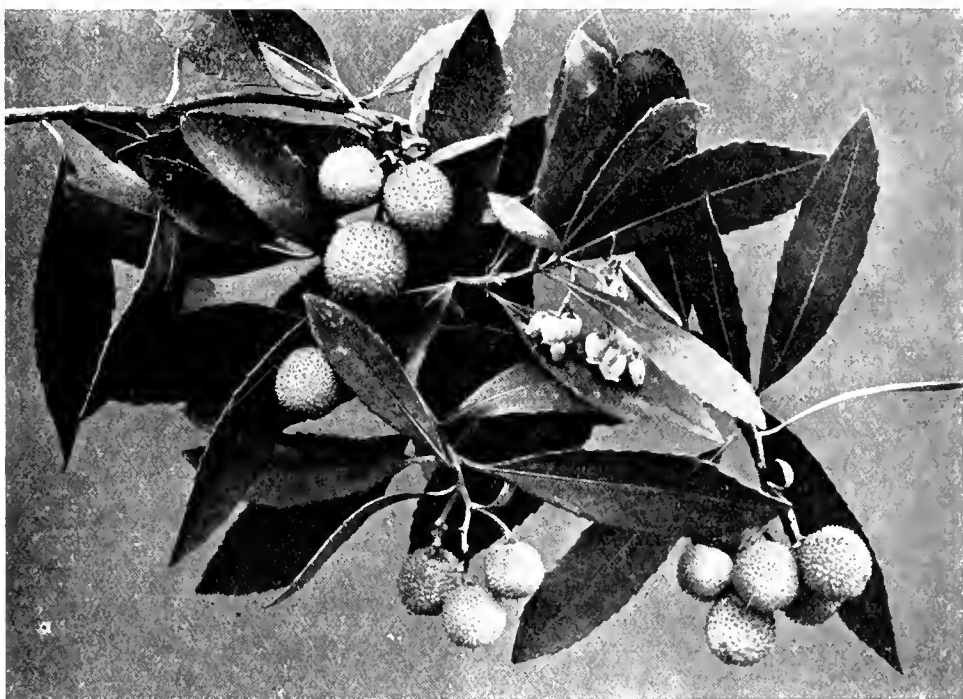
As a start I would dive into that large family of the *Cratægi* which is referred to. What an enormous group it is too, for there must be something like a thousand different "species and varieties" (American determination) in this country now (we actually have about 700 or 800 at Aldenham), and of these there are many still holding the bulk of their fruits, and appear likely to do so for some while yet! Those that have shed their burden did so as the result of one or two sharp snaps of frost, but many still hold, and of these I can well confirm the remarks ament *C. Carrierei*. We can go a little further with the record of the persistency of this, for we have actually had, on more than one occasion, the current season's fruit getting towards ripening while the previous season's still remained suspended from the same branches, no doubt, in fact, the result of mild winter seasons, though there may be other explanations. *Cratægus mollicula*, which is I believe unique in this country, among American Thorns, as having yellow fruits, still has these suspended and though a little shrivelled they look like hanging on for some time. Other excellent Thorns that as yet still carry most of their fruit are *C. Dammeri*, with plump, small elongated bright red ones; *C. opulens*, round, dull red; *C. Eganii*, small, round, rosy red; *C. cupulifera*, with many small, bright red; *C. Ellwangeriana*, with large pale red fruits, to which *C. Fulleriana* bears considerable resemblance and is also carrying well; *C. persimilis*, which is somewhat like *cupulifera*, but rather larger in size; *C. lanuginosa*, with medium sized bright red pomes; *C. Calvinii*, rather shrivelled, bronzy red in tone, carried in bunches, freely borne; *C. ferentaria*, having many small, deep red fruits, like large-sized Red Currants; *C. diffusa*, observable from a long distance with its wealth of bright red haws, while *C. beata* has similar effect, with lighter red fruits; *C. tucosa*, one of the earliest to shew, one of the most persistent, and certainly one of the brightest in colour, and so the tale might go on, though I have only mentioned a few of the best, noted at random.

The Fire Thorns have also been referred to, but surely two are missing in the forms of *Pyracantha Gibbsii* and *C. Rodgersiana*, that claim to be of the best, while *P. crenulata* also has its claims for inclusion. *P. Gibbsii* raised from seed sent home by Mr. E. H. Wilson, is to my mind one of the best of winter fruiting shrubs, and even at the present time can only be said to be colouring to perfection, so that one will readily see its great value, either as wall shrub or as specimen in the shrubbery,

with its many freely borne, closely jewelled bunches of bright red berries, that are most distinct from the *C. coccinea* group in size and colour and general appearance. *C. Rodgersiana* is a yellow fruited species, unique therefore and decidedly worth its place at this season, when it is just assuming its deepest tones. It seems almost a pity that, later on, the birds will claim tribute from these!

Almost mechanically one proceeds to the *Hippophæes* which makes one rather wonder at the previous omission of the kindred and type plants

growths of small crimson berries, that are decidedly in keeping with the shrub's pretty habit and long arching delicate growths; *C. Simonsii*, resplendent with many large-size bright crimson berries; *C. amona*, freely fruiting, and *C. rupestris*, which besides carrying many cheerful-looking red berries, also bears as many crimson-toned leaves among its dark green foliage, while the claims of such varieties as *C. divaricata*, *C. horizontalis* and the pretty ruby-red fruited *C. buxifolia* of tiny foliage, are little more urgent, if at all, than a score of others.



FRUITS AND FLOWERS OF THE STRAWBERRY TREE, *ARBUTUS UNEDO*.

of the *Rhamnaceæ*, viz.—the true Buckthorns (*Rhamnus*), which at this season of the year are so conspicuous with their many bunches of shiny black, freely borne fruits (black for the majority of the species, though some of the others are rather of a purple tinge), and of these *R. cathartica*, *R. Erythroxyton*, and *R. utilis* are assuredly among the most striking fruters we have at present, and the birds certainly respect them here. Another quaint black-seeded bush is *Zanthoxylum piperitum* which we have well covered at the moment.

Cotoneasters are almost multitude, and many of them are carrying their fruits besides *C. rotundifolia* and *C. frigidula*. Good as the last named is, it is absolutely outclassed by its own variety, *C. frigidula Vicarii*, not only as regards size of foliage, but essentially so when comparison of it is made as against the larger fruits, carried more freely in bigger bunches, of the variety, in fact this is probably the gem of the whole garden at this period and can be identified at a long distance owing to its bright crimson aspect. Others that are beautiful are *C. salicifolia rugosa*, with its crimson berries and the delightful red-bronze appearance of its leaves, which might almost be taken to have been carved out of metal, so beautiful is their sheen; the allied variety, *C. salicifolia floccosa*, so freely carrying its long raceme-like

Berberises, of which only two are mentioned, also must enter the field here, and one must of necessity restrict again to the very best, though, with such an enormous genus as this one, a score could again be dealt with. The first to which I would refer are two black-fruited evergreen forms from China, both with most interesting looking foliage, viz. *B. Gagnepainii*, with long medium-sized fruits that peep out around the leaves, and *B. Juliana*, less in size, and even more shy; both of these are rendered more conspicuous and interesting by the grey-purple bloom that covers the fruits. Claiming more attention with their bunches of red fruits are *B. Wilsonæ* and *B. Girardii*, the latter also being remarkable just now, through the red tones of its leaves, while finally I would refer to *B. orthobotrys*, with its large deep red fruits of elongated shape, and *B. brevipaniculata*, which, resembling in appearance the previous species, has large translucent red fruits at this season.

The claims of *Symphoricarpos racemosus* are admitted, but here again a variety (or perhaps I should write a presumed variety, as it is a little doubtful of origin), quite dwarfs the typical form. The variety referred to is known as *S. racemosus laxigatus*, the fruits of which are larger and of more regular size and born in racemes, which often attain, in a well grown plant, from 2ft. to 3ft. in length. The fruits of this also appear to hang

for a much longer period and are certainly, so far as I can ascertain, left severely alone by our feathered friends.

There are several other plants of great beauty in fruit and reference to the Siberian Crab calls to mind the yellow fruited form *Pyrus baccata fructu-flavo*, the fruits of which have certainly turned for the most part a pretty cinnamon brown in colour, though some maintain their very bright yellow shade, and only a very few have so far dropped off. Two other Crabs must have mention. *Pyrus Malus aldenhamensis* still bears the majority of its reddish-purple "cherries," and *Pyrus Scheideckeri* carries most of its small yellow fruits.

Among Roses, the Chinese *R. Helene* now "queens" it with a wealth of small copper-red berries, borne freely in many bunches, and where the large "apples" of the Ramanas Rose (*R. rugosa*), from the neighbouring Isles of Japan, is early-on the victim of the birds, the latter, to the great gain of the garden, do not seem to trouble about the Chinese beauty. *R. lucida* and *R. nitida* are two other species that are particularly pretty low-growing genus at present, with much fruit.

Three *Viburnums* look fine now; *V. Opulus*, carrying a quantity of deep red drupes; its yellow fruiting variety, *V. O. fructu-luteo*, even more striking; and *V. Sargentii*, similar, yet dissimilar to the first named, bearing its many darker red fruits in good contrast thereto.

Ruscus aculeatus (the Butcher's Broom) is bearing fairly freely its bright red berries set deep in its evergreen foliage, and there is a very fine improved form of this (introduced, I fancy, by Mr. E. A. Bowles), which puts the original into the shade for size of fruit and freedom of fruiting. *Lonicera syringantha* looks charming now that it has shed its foliage, on account of its many twin drupes of orange-yellow, and in good contrast to this there are the bunchy black fruits of *L. Henryi* and the red ones of *L. Maackii*. *Stranvasia Davidiana*, and the lower-growing species, *S. undulata*, are also freely fruiting now and look charming with their pure crimson berries and evergreen foliage.

So might the tale run on, for there seem countless plants to which reference could be made, but one must pity the patience of Editor and printer, and beyond reference to the names and colours of *Hypericum Androsarum* and *irabum* (both black), *Arbutus Unedo* (with strawberry-like red fruits), *Taxus baccata* (drupes of both translucent red and yellow), one must be brief to leave final note of two specialities from China, both sent home by Wilson. *Pyrus Malus transitoria tormigoides* (with foliage like a Hawthorn), is a wonderful sight at the present time, even though many fruits are down, for two trees that we have here are still literally smothered with the bright red-tinted fruits, like white-heart cherries in appearance, while *Cydonia japonica Wilsoni*, despite heavy winds, still manages to retain many of its extraordinary fruits, that look like very large-sized green lemons, closely hugging the branches and it is rather a curious sight to see a comparatively small tree carrying an enormous crop of these, for I have counted well over fifty on a slender tree only about 12ft. to 15ft. high.

This year has been a truly wonderful one for fruiting trees and shrubs. Probably owing to the ripening effect of last year's long, hot summer, such fruits as rose hips, etc., have been borne with great freedom. One of the finest sights at the present time is presented by the Hollies, both red and yellow fruited; probably few of us will ever see them in greater perfection, for, looking back on the years, they appeal to me as being far better than I have ever seen them in the past.

THE CHRISTMAS ROSE

THE Christmas Rose would scarcely be held in high esteem if it blossomed at a season when flowers were plentiful; for the rather saucer-shaped blossoms, though substantial, are not, as a rule, a very pure white, being tinged with the chlorophyll which colours the true leaves and stems. The flowers come very much purer in colour if grown under glass or even given the protection of a hand-light. If they are to be cultivated primarily for cut flower, it is wise to grow them where such protection can be afforded without difficulty and without creating an eyesore. Hand-lights or bell-glasses, however, detract immensely from the beauty of the plants as growing, and half the charm of the Christmas Rose in the garden is to see its clustered blossoms braving inclement weather outdoors. The Christmas Rose likes a moderately rich not over-light soil in semi-shade. The flowers are tough and not easily destroyed by frost. It is wise, none the less, to give the plants a westerly exposure rather than a site

until two whole years have elapsed. If, however, home-saved seeds are sown as soon as ripe (about May or June) germination will take place early the following spring. With good culture plants blossom in three to four years from seed. Seedlings are much more vigorous than plants which have been increased for several generations by division. With seeds such as these, which require some time to germinate, it is usually better to sow in square seed-pans and stand in a cold frame rather than to sow outdoors. It is easier to keep pans quite free from weeds than it is the open-air seed-bed, also the young plants are more easily divided when it becomes necessary to transplant.

The typical form of *Helleborus niger* is hardy and useful for outdoor culture, but there are several selected forms with larger or whiter blossoms. Probably the best of these is called *maximus* or, sometimes, *altifolius*. It is an early bloomer, being usually at its best in November. The flowers are often tinged with rose. *H. n. carnea*, sometimes called Apple Blossom,



THE CHRISTMAS ROSE, HELLEBORUS NIGER.

where the morning sun can penetrate to probably frosted blossoms. A ferny bank, the western edge of a wood, spinney or matured shrubbery, the partly overgrown bank of a pool, sheltered corners in the bamboo dell—all are suitable places for this lowly but always welcome flower. There are few gardens which have not places ready-made for them, nor, if all suitable sites are otherwise occupied, is it difficult to arrange a little corner for their accommodation. On light soils cow-manure should be incorporated in the soil before planting. As the clumps should remain many years undisturbed, it is well to trench the ground deeply before planting takes place.

Early autumn is the best time to transplant the crowns. Propagation is by division or seeds. Named varieties must, of course, be increased by division. Few amateurs, however, have the heart to divide up a fine, well established clump, so that the hardy plant nurseries always do a good trade in these plants. Seeds, if sown in January, will not, under the most favourable conditions, germinate before the spring of the following year, and the seedlings may not appear

has almost black stems and dark foliage, and the blossoms are flesh-tinted. Of the forms noteworthy for purity of colouring mention may be made of *St. Brigid* and *Riverstoni*. The form called *major* is desirable, and very robust and free-growing.

Like most tuberous-rooted perennials—*Paeonies*, for example—the Christmas Rose is impatient of transplantation. Patience is therefore very necessary when establishing a new colony, since really imposing results cannot be expected for, at any rate, two or three seasons.

There are in some gardens large patches of these plants which can hardly be said to look natural as growing, simply because the plants are planted quincunx fashion with mathematical accuracy, at a distance apart of from 2½ft. to 3ft. Now the Christmas Rose must have room if it is to grow into imposing clumps, but 2½ft. is an "outside" distance to allow between the clumps and it is quite easy to arrange the plants in drifts and little colonies without such regularity of spacing. An evergreen backing is very desirable.

WOOD LILIES

A SMALL group of woodland plants, chiefly natives of North America, the genus *Trillium* contains about thirty species, of which the best known and favourite kind is *T. grandiflorum*. Other two or three species are found in North-Eastern Asia and Japan. In habit they bear a great resemblance to each other, with the characteristic three leaves in a whorl, borne on a stem varying from a few inches to a foot or more in height. Arising from these three leaves is the flower, also with its parts in threes, borne either on slender stalks or, quite sessile, at the junction of the leaf petioles.

The *Trilliums* are quite hardy, and easy to grow in cool, shady spots planted in a mixture of loam, peat, leaf-soil and sand. As they flower early, a sheltered place protected from cold winds in spring is essential if they are to be seen at their best. *T. grandiflorum* may be naturalised in the open woodland, provided the soil is rich and moist. Most of the other kinds are desirable plants for the rock garden or bog garden, in the former of which many cool sites may be selected for their reception. While not absolutely essential if the soil is moist, shade is desirable for all *Trilliums*. The best kinds and their peculiarities are given below.

T. GRANDIFLORUM is a well known plant, familiar to most garden-lovers. When planted in a suitable spot it increases freely, throwing up clusters of pale green leaves that are bronze tinted when young. Each stem bears a solitary, nodding, white flower, measuring some 4ins. across. The flowers become tinged with pink after a time, but are none the less charming on that account. For woodland walks, where the soil is rich with humus and where there is plenty of moisture, this is an ideal plant for massing. In such positions it will reach a height of 2ft. or more, each stem carrying its large nodding flowers in early May. There are numerous forms of this species, some with small, others with large flowers. Most distinct of all is the variety *roseum*, a charming variation from the type with flowers which open

a pale blush pink, deepening in tint to rose before they fade.

T. sessile is a robust-growing kind with broad, ovate leaves in threes, coloured sage green, with

spotted as in the type, but bears variable white flowers in April that are claret tinted only in their lower parts. Like the type, it is fragrant, but it is more vigorous in habit, often attaining to a height of from 2ft. to 3ft. in favoured situations. *T. sessile* and its varieties flourish in boggy soil.



THE RATHER UNCOMMON TRILLIUM SESSILE CALIFORNICUM.

numerous paler green and purple spots. The flowers are sessile in the axils of the leaves, and consist of three chocolate-coloured, strap-like segments 2ins. or 3ins. long. Although not an attractive plant, the flowers are deliciously fragrant. A much more desirable plant is *T. sessile* var. *album* (syn. *californicum*), which has leaves

T. ERYTHROCARPUM is a charming little plant for a selected nook in the rock garden. It has spotted ovate leaves and showy white flowers that are heavily spotted with crimson. It is more difficult to establish than most of the others, preferring a drier position in well drained soil.

Of the other kinds in cultivation there is *T. CLERMUM*, with pretty, nodding, white flowers that are fragrant and measure 1in. across. *T. ERICETUM* has dark green foliage and reddish purple flowers in the type. There is, however, a white-flowered variety that is suggestive of *T. grandiflorum* when doing well, often reaching a height of 18ins. The petals, however, are tinted with a livid red colour at the throat or base. *T. OVATUM* is a dwarf plant whose three leaves form a complete circle round the stem. The almost sessile flower is pure white at first, but develops a red tint with age. It should be grown in a sheltered position in the rock garden. *T. NIVALE* may be called a miniature *grandiflorum*, bearing its pure white flowers in April. It only grows to a height of 3ins. or 4ins., and does well in drier peaty soil. Another dwarf rock garden species is *T. RIVALE*, which must not be confused with the above. It has white flowers, produced in March, more or less covered with purple spots in the lower half. It is a charming little plant and also easily grown.

T. RECURVATUM is more curious than attractive, with flowers the segments of which are ruddy purple in colour and much recurved. A variable plant is *T. STYLOSUM*, which is easy to grow where *T. grandiflorum* flourishes. The flowers are not so large as in that species, and are usually rosy pink in colour, but the colour varies considerably. When well grown, plants reach a height of 2ft. It is one of the later flowering kinds, often not



BEST KNOWN OF WOOD LILIES, TRILLIUM GRANDIFLORUM.

opening its flowers till June. Tillands are best left undisturbed when established, when many of the species will soon make respectable clumps. For the purpose of propagation they

may be lifted in autumn and the roots be divided. They should not be allowed to get dry; indeed, they should be planted again at once. W. L.

RARE ALPINES AT HINDHEAD

NEAR to Haslemere, where my late good friend, Professor Sir Isaac Bayley Balfour, came to pass his last days, the doctor of the place grows alpinists with the greatest success. We met at Chelsea Show and he took me in his motor through the beautiful Surrey countryside—nice villages, hills covered with picturesque Scots Pines and Gorse. At Hindhead the little cottage garden is kissed by the evening sun and its beauties are now at their best. Imagine a paved path adorned with the rarest of alpinists, growing there like weeds:

Linnaea alpina in masses everywhere, *Viola losniaca* and *V. calcarata*, *Saxifraga cæsia*, *SS. bryoides*, *aretioides*, *Grisebachii*, *Gentiana verna* (which I would rather call *floribunda*), *Thlaspi rotundifolia*, *Draba pyrenaica* and *D. p. alba*, *Pentstemon rupicola*, *Origanum Dictamnus*, *Campanula Allionii* and *C. A. alba*, *Dianthus Freynii* and *D. microlepis*, *Lithospermum* of all kinds, etc., all growing freely in full sun at Hindhead.

This would please Professor Tyndall, who declared that that part of England has the purest air and is the best place in which to take a change

in the kingdom. In picturesque rockeries were the *Gentians* of the Alps (*Lavaria*, *verna*, *brachyphylla*), and those of Asia (*Farreri*, *sino-ornata*, *Pardoni*, etc.), *Ranunculus pyrenaicus* in full flower, *Primula marginata* and *PP. viscosa*, *deorum* and *fariosa alba*, *Saxifraga aizoides* and *SS. baldensis* and *vallensis*, which Dr. Jenkin found near the Mont Cenis hospice, where it had not previously been discovered, *Anemone sulphurea* in flower, and *A. vernalis* also, with seventeen beautiful flowers, *Meconopsis* in variety, even the rare *Prattii*, *Aquilegia glandulosa* and some nice *Sempervivums* such as I had not seen at Kew the previous day. All these gems looked well and as healthy as they are on the highest summits.

Then, in a frame kept well up for the sake of a good drainage, in nice little beds facing the evening sun, were *Azalea procumbens*, flowering as well as at the highest altitudes, near to 6,000ft., *Androsace glacialis* perfectly well, *A. Vitaliana*, *Phyteuma hemisphaerica*, *Saxifraga retusa*, *S. aspera*, grown from seeds, *Campanula cæsia* and *C. c. alba*, *Ranunculus glacialis*, *Daphne arbuscula* and *D. tangutica*, some rare *Primulas*, *Lobelia linnæoides*, *Gentiana chionantha* (*verna alba*), etc. In a collection of pots, nursed as if they were little children, were *Phyteuma comosum*, *Campanula excisa* and *C. Zoysii*, *Androsace imbricata* (from seeds), *pyrenaica* (*idem*) and *Gentiana bavarica* in a pot filled in the middle with sphagnum moss or peat, in order to provide a regular supply of water to the plant.

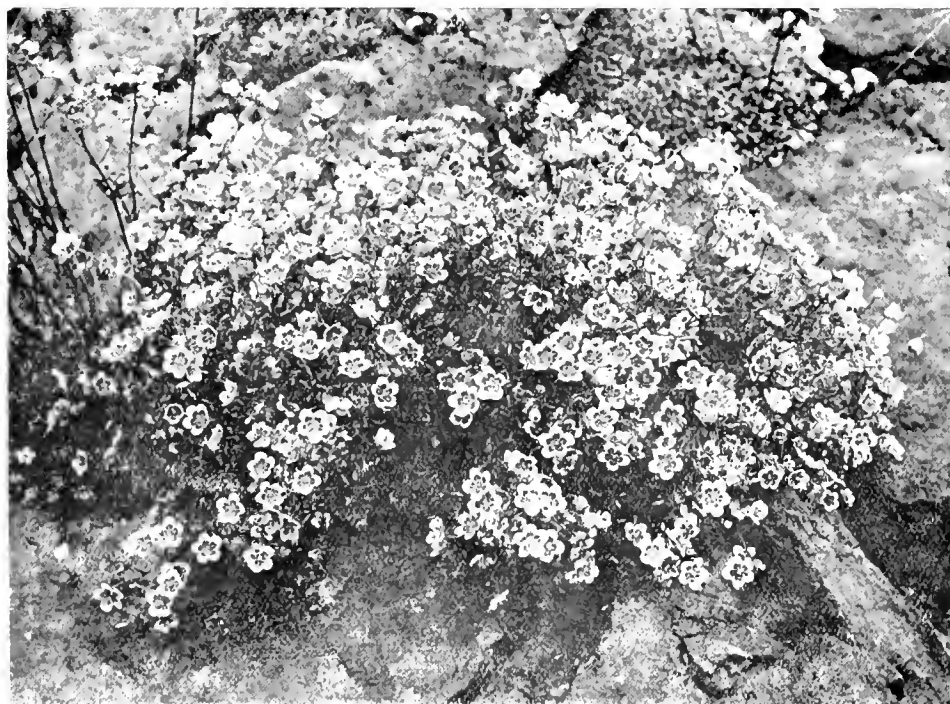
In such a botanic garden, time passes and night falls too early. I often dream of the little garden of my friend the Hindhead doctor and my hope is to see it once again.

Floraire, Geneva.

H. CORREVOY.



CAMPANULA CÆSIA IN DR. JENKIN'S ROCK GARDEN.



A FINE PLANT OF SAXIFRAGA ASPERA IN THE SAME GARDEN.

AN ALPINE "BLUE DAISY"

THERE are several so-called "Blue Daisies" for the rock garden, none of which is either a Daisy or blue. *Erigeron leionerus* is the best and prettiest of them all, a delightful, thrifty little plant, forming compact carpets of narrowish leathery leaves half an inch high and carrying in May or June a generous crop of lavender blue Daisy flowers on stiff, erect stems only 2ins. high. It is like a tiny, very dainty edition of *Aster alpinus*.

I shall never forget my delight when I first discovered this plant. It was growing amid wild rocky scenery, perched high and dry on a little promontory of gritty soil above a rushing mountain torrent in what is, without a doubt, the richest hunting ground for alpine plants in all the world. I have made expeditions of many thousands of miles in search of rock plants, I have been to Mt. Cenis, the Lantaret and Mt. Baldo in their fullest flush of flower-time, but I can say quite truthfully that for brilliance and profusion of flower, as well as for endless variety of priceless rarities and special forms, no other place I have ever visited comes anywhere near that little strip of rocky country where I first discovered *Erigeron leionerus*. It is more marvellous in richness and variety and in rarities, and has a stranger geological formation than anything that even Farrer has described in "On the Eaves of the World." Yet the flower-time is strangely short. You must time your visit to within a day or two, or you will find little or nothing of interest.

If you will promise not to divulge the secret to a soul, I will tell you where this richest of all collecting grounds is—among the rock gardens

at Chelsea Show. So now you can go and collect there to your heart's content, taking what you will and as much as you will, and the more the better, with no qualms of conscience about being

which flower profusely. Any decent lawn suits it. It is happy, too, and appropriate in the moraine, and is an ideal plant to put in the alpine flower lawn of mixed dwarfs without grass. This

equally graceful appearance, and the dainty prim little Pompons, was remarkable. But there was no abrupt transition, for between them were many vases of highly decorative singles and Dahl. Baldoek, a deeply coloured form of Baldoek's Crimson, which is grown so extensively for market purposes. Dr. Jacobs is a valuable decorative variety of crimson colouring, as also is the golden chestnut Teresa. Messrs. Scott and Wickham had a nice batch of the new Golden Butterfly, which we illustrated a fortnight ago, while Mr. Norman Davis again staged Pink Favourite, shewing, in both instances, that they are good winter-blooming varieties. Mr. Isaac Godber had several vases of Golden Star.

In many ways the best floral exhibit was that of the magnificent plants of Begonia Gloire de Lorraine sent up by Mr. J. B. Body. Each of the many very large plants was a splendid example of the highest cultural skill, and the myriads of bright pink flowers made a welcome feast of colour. There were also bright colours in the several Carnation exhibits. Messrs. Allwood Bros., had their usual good collection. In Eileen Low and Mrs. T. Ives Messrs. Stuart Low and Co. had two good pink sorts, while Lord Lambourne and Red Ensign provided brilliant colouring. Yvonne Holmes, a pinkish Perpetual Malmaison, Boadicea and Laddie were well set up by Mr. C. Engelmann.

A very uncommon exhibit at this season was the collection of pot plants of the beautiful blue Morning Glory, Ipomoea rubro-cerulea, by Messrs. Sutton and Sons. These were all excellent plants and although, owing to the cold, the flowers were tightly closed during most of the afternoon, the late comer could readily imagine what a glorious display they would make in a warm greenhouse.

Quite a spring-like effect was made by Mr. G. W. Miller with his long collection of Polyanthuses and Double Daisies, in neat, shallow baskets. This was a direct contrast to the conifer collection of Mr. G. Reuthe, though the great variety and the small collection of cones were of interest.

Some useful alpinists and his quaint miniature rock gardens were displayed by Mr. F. G. Wood, who also shewed his "Optical Square or Cross Sight," a handy little pocket instrument of great value for easily setting off straight lines and right angles when garden making.

Winter-flowering Sweet Peas were again arranged by the Rolvenden Nursery Company; the bloom-



THE PRETTY "BLUE DAISY," ERIGERON LEIOMERUS, IN THE MORAINE.

a vandal and stripping the Alps. I captured a dozen good roots of Erigeron leiomerus there in 1912 (in English it is called Fleabane, but what can we think of a flea to which such a flower is distasteful), and on my usual principle planted it out on my rock garden to find out if it were a grower or a dier, and if it were perfectly hardy. If a plant is not perfectly hardy and growable, then let it get on with it—and die, say I; but there were no buts about Erigeron leiomerus. It grows sedately but steadily, forming neat mats,

last form of alpine gardening is a recent discovery of mine, and is going to become as important as the moraine. After a year or two in one place E. leiomerus is apt to grow leggy—in its small way—but an occasional top-dressing soon remedies this, or the plant may be dug up, pulled to pieces and transplanted. This is the best and easiest way of increasing it. If you wish to go further afield to collect it, I believe E. leiomerus is a native of North-West America.

Svenenize.

CLARENCE ELLIOTT.

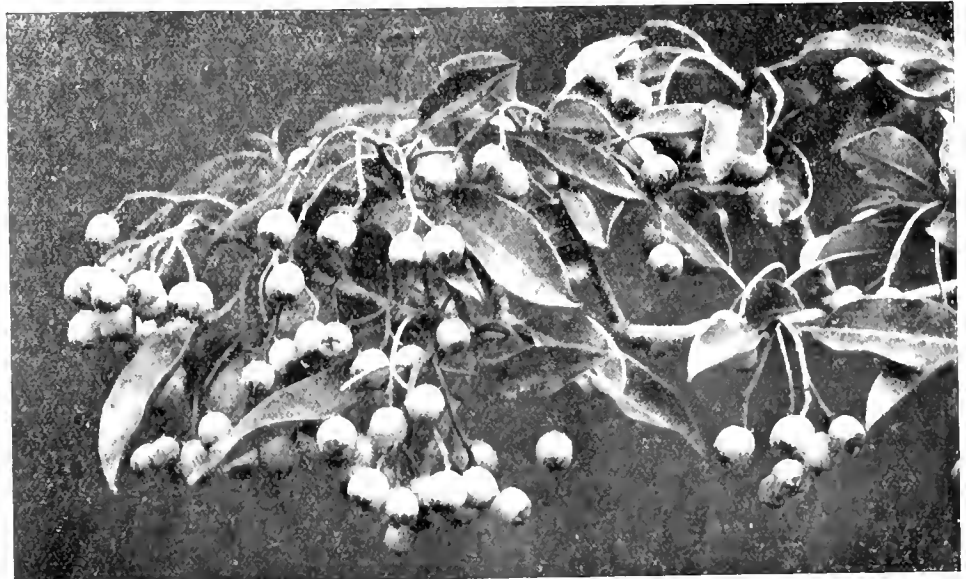
THE LAST SHOW OF THE YEAR

ALTHOUGH it was not large, the last R.H.S. Show of the year at Vincent Square on December 12 was very bright and interesting. Orchids were of especial merit and from the novelty point of view the most important. In addition to the six which we describe, another received recognition. This was Cypripedium Etta, shown by Mr. R. Windsor Rickards, but its place could not be found. The wire cage for the new Orchids seems to have been quite overlooked of late; but, judging from a recent correspondence in our columns, a similar arrangement for special fruits would be an advantage for all legitimately concerned.

The outstanding Orchid exhibit was the gold medal collection of Cypripediums by Mr. G. E. Moore of Chardwar, Bourton-on-the-Water, and this was noteworthy for the great cultural skill it illustrated, as well as for the value of the many varieties on view. Mr. H. L. Pitt also had a valuable collection of Orchids. His Cypripediums were prominent, but the outstanding plant was a superb specimen of the brilliant Labio-Cattleya Majestic. Messrs. Sander and Co. also had a good group in the body of the hall.

Chrysanthemums were displayed well by several growers. Messrs. Keith Luxford and Co. had a pleasantly arranged collection of nearly all the different types, each of distinct decorative value. The contrast in size between the immense, yet

graceful exhibition varieties such as Ida, made up of elegant, narrow yellow petals flushed with rose with age, and Helena Margerison of



CRIMSON BERRIES AND GLOSSY FOLIAGE OF STRANVÆSIA UNDULATA.

were better coloured than a fortnight ago. Flamingo and Mrs. Kerr, two pink flushed varieties, were bright and daintily charming, while Princess was very chaste and beautiful. The blooms were well disposed on sufficiently long stalks for dinner table decoration and for small vases. The stems are not so stout as the summer-flowering varieties, so the blossoms are easy to arrange

NEW AND RARE PLANTS.

Chrysanthemum Cuerton Sunflower. This single variety is remarkable for two things, its beautiful colouring—it is a soft and yet bright yellow—and its freedom to flower. The flowers are shapely and, we are told, very lasting, but withal on the soft side. It would be useless for market or for sending by post, but for conservatory decoration or for cut flower it should have a future. Though larger in blossom, it is of the Mary Anderson type. Shewn by Mr. S. Aish.

Primula sinensis fl. pl. var. Rossway Beauty.—A cultural commendation was given for two very fine pots of double Primula from Major-General Sir Charles F. Hadden, K.C.B., Berkhamsted. These plants were evidently of a robust strain as well as admirably grown. The flowers were tinged with cattleya-mauve, pointing probably to a stiff soil with a distinct iron content. These double Primulas are especially valuable for florists' work.

Stranvæsia undulata.—The chief beauty of this spreading Chinese shrub lies in its abundant brilliant red berries, which are produced in clusters and, individually, have somewhat the appearance of unusually showy Hawthorn fruits. It is an evergreen, and the dark green shining lanceolate leaves, which are 2 ins. to 3 ins. long are an added attraction. This hardy shrub bears plenty of small white flowers in early summer, but the petals

soon drop. It was introduced by Wilson at the beginning of the century when he was travelling for Messrs. J. Veitch and Sons. Award of merit to Mr. Lionel de Rothschild.

Cypripedium Golden Fleece.—This is one of the best of the yellow Lady's Slipper Orchids. The plant had a pair of large graceful blooms standing erect on long stems. The pouch and lateral segments are of shining golden yellow colour while the standard is mostly creamy white with a few spots at the base. Award of merit to Sir George Holford.

Cypripedium J. M. Black.—This is a magnificent Lady's Slipper Orchid which might almost be termed a glorified and beautiful Cypripedium insigne. It was a robust, green-leaved plant and the large flower was carried well. The large upper segment is nearly all white, though the base is flushed and has a few rosy chocolate spots. Award of merit to Messrs. Flory and Black.

Odontioda Royal Scot.—The plant bore a long erect spike well furnished with perfectly shaded flowers of more than average size and of bright chocolate colour well margined with white. Award of merit to Messrs. A. and J. McBean.

Odontoglossum Vega.—This is another beautiful Orchid bearing perfectly formed blooms. The colour is a rich, intense maroon and the segments were very finely edged with white, making it a very uncommon flower. First class certificate to Messrs. A. and J. McBean.

Sophro-Lælio-Cattleya Lustre.—The most gorgeous of all the new Orchids. The flowers were of medium size, but of dazzling cerise crimson colour. Award of merit to Messrs. Charlesworth and Co.

Vuystekeara Aspasia.—This is an interesting and beautiful example of the orchidists' hybridising art.

First, some time ago, *Odontoglossum* and *Cochlidia* were crossed, giving rise to the new genus *Odontioda*. Later, and much more recently, *Odontioda* and *Miltonia* were successfully crossed and this new genus received a very ugly name, though all its members have beautiful flowers. The latest is *V. Aspasia*, which shows a deal of the *Miltonia* parentage in the large flattish lip, which is flushed and spotted with mauve. The other segments are of rich velvety crimson colour, faintly edged with a paler shade. The combination of colouring makes a singularly beautiful flower. First class certificate to Messrs. Charlesworth and Co.

SOME MUSK ROSES

THAT delightful Himalayan Briar *Rosa Brunonii* should be in every collection of Rose species. It is a prodigious grower and profuse bloomer when established. There seems to be some confusion with these Rose species. I always look upon the variety known as *R. polyantha grandiflora* as a near relative to *Brunonii*. In any case, both are worth growing. As with all the Musk Roses, huge panicles of bloom are a feature of *R. Brunonii*, and the pure white flowers with profusion of yellow stamens have a simple beauty all their own. Closely allied to this is one *Mme. d'Arblay*, a semi-double white, and also a rampant grower. The wood is apt to suffer in a hard winter. A grand variety of the Hybrid Musks that every lover of single Roses should possess is *Miss Florence Mitten*. I know of no Rose that so persistently holds its blossoms, and the large Apple blossom pink flowers remind one of a glorified *Alexandra Day* Rose. Unlike the others I have named, it is a more compact grower and blooms right down to the ground. J.



A SEVEN-INCH POTFUL OF THE DOUBLE PRIMULA, *P. SINENSIS* ROSSWAY BEAUTY.



SOFT GOLD SINGLE CHRYSANTHEMUM CUERTON SUNFLOWER, OF "MARY ANDERSON" TYPE.

CORRESPONDENCE

GRAFTING CLEMATISES.

I WAS pleased to see a criticism by so great an authority as Mr. Jackman of the article on page 567, on "Own Root Clematises." I read the article through carefully and, like him, I should have expected to have found the familiar initials "W. R." at the end. When I did not, the words of the blind Patriarch in Gen. xxvii, 22, came to my mind. One fails altogether to understand how the mind of so great and respected a gardener as "W. R." should have become so obsessed with this fallacy about grafting one Clematis on the roots of another, or why for years he should have written so persistently against

it to the perplexion and discouragement of many amateurs. He always seemed violently opposed to those who did not agree with his own views, and for long years any reference to grafted Clematises or the root-pruning of fruit trees would bring a sharp reply from Gravetye. In the fourth paragraph of his article "E. M." states a fact which, in the interests of his contention, he might well have left unwritten. When it was seen that the scion had itself formed roots why was it necessary to cut away the stock? No intending planter should be discouraged by this mischievous theory, but when the grafted plant comes to hand, plant it with the point of union deep enough for the scion to grow away on its own roots. If by any accident the stein should be cut to the ground, it will push up new growth from the eyes under the surface. Such an accident happened here to a plant of Nellie Moser on the south side of a fence, and a photograph of this plant which was taken two or three years later is reproduced on the cover of THE GARDEN of July 15, 1922. The same thing



FRUITS AND AUTUMNAL FLOWERS OF THE JAPANESE QUINCE.

happened to another plant here last spring which had been recently planted, but I did not despair about it, and, true to expectation, it simply threw up a stronger growth and probably did better through being cut down. There is a mystery about the sudden collapse of plants which can hardly be traced to grafting, or one would expect the trouble to be common to all gardens where grafted Clematises are grown; but this is not so. There is not a large number of Clematises grown in these gardens, but still, we have them in every aspect—on walls, fences, arches and bushes, north, south, east and west—yet I have never known or heard of the loss of a plant from this cause. Friends at East Grinstead, four and a half miles distant, could tell a different tale. Why? We make no special preparation—they go to much trouble and labour, and yet the plants will die. I have

struck cuttings, or slips, in late spring, and I have grafted plants, and both thrive. Thirty years ago I was a propagator in a nursery, and I often amuse myself doing such things if only to keep my hand in. If the trouble is ever traced, it will probably be found due to local conditions in the soil or otherwise.—H. C. W., *Lingfield*.

ROSES FROM HOLLAND.

IT may interest others to know the following facts. For the first time in my twenty-five years' experience of gardening I was tempted to send an order for a few Rose trees to one of the largest Dutch growers. The following are the particulars of the transaction: October 12, posted

during transit they would have been worthless. They are grafted on English Briar stock, and are about 75 per cent. cheaper than the list prices of English growers. Notwithstanding all this, never again will I touch them.—A LOVER OF ROSES, *Birkenhead*.

EARLY SNOWDROPS.

YEAR after year there have been letters in THE GARDEN reporting the early flowering of Snowdrops, but it generally seemed to me that they were not early. Therefore I report that this year they were in flower in this garden on December 8—THACKERY TURNER, *Godalming*.

ABOUT NERINES.

I READ with much interest Mr. Jacob's article on above. N. Bowdeni does splendidly with me here out of doors and always flowers profusely, but this year it was quite three weeks later than usual, and in consequence all the blooms were spoilt by frost early in November. I have not found that the hybrids of Bowdeni flower as well out of doors: possibly they may do so in Cornwall. Mr. Veitch has his Bowdeni hybrids, I think, in a very sheltered position at Exeter.—H. G. HAWKER, *Ermington, Devon*.

FLOWERS AND RIPE FRUITS.

I AM sending you a print shewing fully developed fruits and newly expanded flowers on a spray of the Japanese Quince, *Cydonia japonica*, which I think may be of interest, though such is by no means an uncommon occurrence. The contrast between the brilliant, almost scarlet flowers and the greenish fruits is very striking. Oranges and Lemons, of course, produce flowers and fruits simultaneously and even among shrubs hardy in this country we have the Strawberry Tree, *Arbutus Unedo*, the fruits of which take a year to develop and ripen. This late flowering of the *Cydonia* is, however, really more on a par with the second cropping, which is so common with Pears and Plums (especially Victoria Plum), and, occasionally, with Apples. The tendency towards such second cropping can be developed by careful breeding, as witness autumn-fruiting Strawberries and "perpetual" Raspberries.—H. H.

SPIDERY CHRYSANTHEMUMS.

AS I acted for many years as editor of the National Chrysanthemum Society's Official Catalogue, a publication which it is to be regretted no longer appears as of yore, I had some part in the classification of exhibition Chrysanthemums. I quite remember the term "spidery" being first applied to a certain well marked and distinct kind of Chrysanthemum which first appeared over thirty years ago. It is therefore a little difficult for me to understand what your contributor means on page 601 when he says "varieties of the spidery-petalled section (e.g., Rayonnante).". The variety "Rayonnant" (sic) and its near relatives do not, and never did, belong to the spidery group. All these thin, tubular, stiff-petalled forms, a small group, and at one time but little appreciated, were commonly known as the Hedgehog type, but no official section was created. The Spidery group, subsequently thrown together with a number of nondescript oddments, consisted of those peculiar Japanese forms with long, thin petals curling and twisting in a weird, fantastic form that placed them outside all recognised exhibition sections. The term "spidery" is a distortion of the late Shirley Hibberd's invention "spiderkry." He applied it to a form which he illustrated in the *Gardeners' Magazine* many years ago when I assisted him in the preparation of a Special Double Number devoted entirely to the Chrysanthemum. The original flower was grown in the gardens of the

order with remittance. October 10, acknowledgment received. November 16, made enquiries by letter re the dispatch. November 20, received reply that they had been sent on November 11, but giving no particulars as to route or anything else. November 23, wrote again, asking for these details. November 29, received reply to say half had been sent on November 15 and half on November 18 *via* Hull. There are half a dozen railways in this district that have connexions with Hull, so I had to enquire of each for tidings of this parcel—without result. I wrote to a friend in Hull who, after some trouble, traced the lot, and they arrived here in *one bundle*, not two, late on December 6. In the meantime I had lost the pick of the weather for planting. Furthermore, they were just packed in a bundle of straw, with the roots fully exposed; had there been frost

Emperor of Japan, and a photograph of it was reproduced by Mr. Hibberd with the odd name he invented being applied to it. "Spider" suggested the form and "kry" was a playful abbreviation of *Chrysanthemum*—C. HARMAN PAYNE.

THE TRIUMPH.

The Sun looked down on the garden
From the height of his summer power
And smiled to see Earth's happiness
Told forth by many a flower.

He breathed the Lilac's incense
Borne on the quivering air,
Saw the vestal Lily with downcast eye,
And the Iris of form so fair.

Yet some there were which slumbered,
From whom no answer broke;
The Hellebore and the Snowdrop,
The Cyclamen under the Oak.

His message in their sleep these heard:
"While I ride on high—rest on;
But rise and brighten the Earth for me,
In the days when my power has gone."

He passed to the South and, behind him,
Stern Winter arose and frowned;
Cried he "This rule of the Sun shall cease,
My joy is a barren ground!"

So he tore the leaves from the branches,
Rolled his mists like a shroud of death,
And all the air of the garden
He chilled with his icy breath.

Then the flowers which slept in the summer
Felt the touch of his hand and awoke;
The Hellebore and the Snowdrop,
The Cyclamen under the Oak.

Then, through the gloom of the woodland,
Shone the Witch Hazel's light,
And each of the barren branches gleamed
With crystal jewels bright.

When Winter saw his forces
By Beauty thus beguiled,
His harsher mood was melted,
His brow relaxed—he smiled.

A. E. SIMS

ERIGERON MUCRONATUS.

THERE is some excuse for making mistakes about the proper name of the above plant (see pages 500 and 597). Vilmorin of Paris, in his book "Hardy Flowers," first edition, page 950, mentioned a plant which he called *Vittadinia lobata*, which the "Index Kewensis" named *Vittadinia australis* with a query to indicate doubt. Stendel spelt the name *Vittadenia*, which was wrong. Whether the confusion of names originated in Paris or not, it is certain that *Erigeron mucronatus* was confused with *Vittadinia* under the name of *V. triloba* in this country in 1880. I have seen it in a dictionary under its proper name, with *Vittadinia trilobata* as a synonym. *Erigeron mucronatus* is a native of Mexico. *Vittadinia australis* in the flora of New Zealand has white rays to the heads; but the species is also a native of Australia and Tasmania, where it runs into numerous varieties. Three of these described varieties have become naturalised in the South Island of New Zealand, and all of them have purple ray-florets besides other distinctions. *Erigeron mucronatus* and *Vittadinia australis* in their typical form have some considerable resemblance outwardly, and are separated generically by minute but important particulars in that large and complicated Order of plants, the Compositæ.—HORTULANUS.

FLOWERING SHRUBS FOR WALLS AND HEDGES

EVEN in the south of England the cultivator is justified in planting certain choice flowering shrubs so that their branches may be trained on walls. In the midland and northern counties the protection afforded by a wall is essential for the satisfactory growth of some kinds.

Where inner hedges are necessary, more for screens than resistance, there is much to be said in favour of those composed of flowering plants. The necessary pruning to keep the plants within reasonable bounds may be carried out without interfering very much with their flowering from year to year.

It often happens that walls selected for covering plants are backed by tall trees or shrubs, whose roots permeate the soil under the wall and beyond

With regard to hedges I am not including Roses in this note, though suitable varieties are always welcome where they can be grown as hedge plants. The China Rose, the Austrian Briar, the hybrid Sweetbriar, all are charming, and not least the common Sweetbriar.

EVERGREEN PLANTS FOR WALLS.

Azara lanceolata, *A. microphylla*, *Berberis stenophylla*, *B. racemosa variegata*, *Buddleia globosa*, *Ceanothus dentatus*, *C. floribundus*, *C. Veitchianus*, *Choisya ternata*, *Cotoneaster buxifolia*, *C. horizontalis*, *C. rupestris*, *Crataegus Pyracantha*, *C. P. Lalandei*, *Eleagnus pungens*, *E. glabra*, *E. pungens Simoni*, *Escallonia langleyensis*, *E. macrantha Ingrami*, *E. montevidensis*, *Forsythia suspensa*, *Fremontia californica*, *Garrya Thureti*,



THE MEXICAN ORANGE, CHOISYA TERNATA AGAINST A WALL.

to a considerable distance. Where this is the case such roots must be cut out before any planting of wall plants is done. Slates, on edge, should then be fixed clear of the wall foundation, the original soil be replaced and some good loam be placed on top for the benefit of the wall plants. The roots of the larger trees will again push into the soil, but, for several years, below the new loam. When, at length, they take possession of the prepared compost, light annual top-dressings will sustain the wall trees. Where there are no large trees near enough for their roots to reach those of the shrubs, very little labour will be necessary in preparing the border near the wall.

SUITABLE PLANTS FOR VARIOUS POSITIONS.

The cultivator should give due thought to this matter. It is always very unsatisfactory when strong-growing plants are trained on quite low walls; their proper place is one where there is ample space both for their roots and branches. Compact and possibly somewhat slow-growing plants are best for low walls.

Griselinia littoralis, *Magnolia grandiflora* (for high walls), *Myrtus communis*, *Olea fragrans*, *Pittosporum eugenioides*, *P. variegatum*, and *Piptanthus nepalensis*.

DECIDUOUS PLANTS FOR WALLS.

Ceanothus azureus, *C. Gloire de Versailles*, *Cydona japonica*, *C. j. rosea*, *C. Maulei*, *Desmodium penduliflorum*, *Hydrangea quercifolia*, *Indigofera Gerardiana*, *Lospedeza bicolor*, *Lycium europæum*, *Punica Granatum* (single), *P. G. flore pleno*, *Rubus deliciosus*, *Solanum crispum*, *Viburnum plicatum*. Where much wall space is to be furnished a few non-flowering plants, possessing lovely foliage, judiciously mixed with the majority, will help to set off the beauty of the latter.

A collection of Mock Oranges and *Hibiscus syriacus* will form a very charming hedge or screen fence between the flower garden and vegetable ground, especially so if there are a number of evergreen flowering shrubs dotted in a few feet apart immediately in front of it. The use of hardy Fuchsias for this purpose is also practised. G. G.

EVELYN'S KALENDARIVM

ONE of the Englishmen of the past whom I admire above others is John Evelyn. He was such a real gentleman, and his "Sylva" and his "Kalendarium" go far to prove it. They are abiding testimonies for all time of his thought for his country and his fellows. Poor England denuded of the wherewithal to fashion anew her wooden walls! No League of Nations in sight! The fear of the Great Armada from Spain still fresh in men's memories! And then came Evelyn with his "Sylva"—an altogether unconventional example of the pen being mightier than the sword. Fortunate England! his "tongue was the pen of a ready writer." Who can measure or compute how much "This precious stone set in the silver sea" owes to his "Sylva"? We are going to dry-dock the old Victory. Will none of our great lovers of their country statesmen take measures to dry-dock in some public place, where he "that runs may read," this simple book and place upon its case some legend after this manner. "No Evelyn, no Nelson: no 'Sylva,' no Victory." Then this "Kalendarium," if one may compare small things with great. If Humphrey Davy's, comparatively speaking, small invention of the miner's safety-lamp may be placed side by side with his much greater work, and by some be judged of even higher merit because it was the visible sign of a much distressed heart in one who knew full well the dangers of the mines; may we not in some such way compare these two books of this famous Squire and say that if the first, the larger and the more important one compels our admiration, the second, the smaller and the less known creates in all of us gardeners who know but too well their limitations, a fellow feeling, nay a personal love to think that he thought for beginners, for the ignorant and the forgetful, and compiled out of his vast store of gardening knowledge a simple little book which he hoped would be for many years their guide, philosopher and friend. We all know how true is the lesson which Virgil teaches in his first *Georgic* and which our author includes in his preface:

"Gard'ners had need each Star as well to know,
The Kid, the Dragon, and Arcturus too,
As Sea men, who through dismal storms are wont
To pass the Oyster-breeding Hellespont."

The illustration had more point, naturally, in 1666 than it would have had, had the "Kalendarium" been one of the new books of 1922. It must be remembered that Evelyn himself is not wholly free from astrological domination—under October's work to be done in the orchard and olivory-garden we read "Moon now decreasing, gather winter fruit that remains"—and secondly, that a good practical florist like Samuel Gilbert, the son-in-law of John Rea appended to his first edition of his "Florist's Vademecum," published in 1682, a *kalendar* or, as he calls it, "The Gardener's Almanack," for

the years 1683 to 1687, showing among other details "The Sun and Moon's Place each day in the Signe," which, if the advice given in the sort of preface with which the little book opens is to be followed, are absolutely necessary. How else would it be possible to dress your gardens and trim your small trees and shrubs "when the Moon is in Libra or Capricorn"? In this same introduction we seem to get a hint of the origin of this (to us) strange and fanciful astrological theory. There would be every likelihood, considering the feeling of mediæval times, that as with the Doctrine of Signatures it



THE TITLE PAGE OF THE KALENDARIVM HORTENSE.

should have had a Biblical or religious origin, and it seems to be quite in the nature of things that there would be a wish to put into practice the saying of Solomon "That to every thing there is a season, and a time to every purpose under the heavens; a time to plant, and a time to pluck up that which is planted." Might it not be attained by a careful study of the position and state of the moon? Even an Evelyn cannot wholly divest himself of the popularly accepted theories of his time, any more than an up-to-date country practitioner can resist the popular "You must have your teeth out" advice of to-day. I saw it recently "in the paper" (but no certificate of authenticity accompanied the statement) that a tennis player had been ordered this treatment for a sprained ankle! Thus to know that this famous man kept an eye upon the moon only makes him more human, and by no means prejudices us against, nay rather gives

us a bias in favour of, this splendid little book. It was the sympathetic spirit and the keen eye of John Evelyn that made him realise so clearly the "extreme perplexity, which for want of a constant and uniform Method does so universally distract the vulgar (or as we should now say, ordinary) sort of Gardeners." How he met it is disclosed in the "Kalendarium." The method was not altogether new. In all probability he got the idea from others, and among them from our own Thomas Tusser, who in his "Five Hundred Points of Good Husbandry" had many years before included something of the housewife's work in the garden in his monthly directions about the ordering of a country farm, Evelyn developed this, and by developing it may be said to have made it in his "Kalendarium." It is the high-water mark in the history of the art and practise of gardening; and every editor of a gardening paper in the present year of Our Lord, 1922, still feels its necessity inasmuch as he devotes a no inconsiderable space in every issue to "Gardening of the Week," or "The Week's Work," or an article with a similar title, all of which in their essence and intention are but the "Kalendarium" writ large and brought up to date. Just for a moment, ye modern columns, look at the rock whence ye have been hewn and at the hole of the pit whence ye have been digged. The *The Eocene stratum* is Evelyn; then there is Philip Miller; newer still comes John Abercrombie; then almost last of all, Joseph Paxton. These are the great broad layers deposited by time; and careful inspection finds that between them are the thinner lines of other deposits—here continuous, there broken—perchance a Bradley, a Whitmill, a Justice, a Reid or a Lawrence, but altogether forming that solid mass on which there is now accumulating a far deeper layer than any of them, viz., that being formed by the long series of "what-must-be-done-weekly" articles contributed through the medium of the gardening press by many of the very front-rankers of our time. I have met so many garden lovers who think these week's-work columns are about the most important part of a paper that a glance at their evolution may not be unacceptable; and I am prepared to put my back to the wall and stand up to those who would say that such writing is not practical.

What is "Practical"? Why should this hackneyed word be confined to the telling people how to plant and what to sow; how to cultivate and what to buy? Is there nothing "practical" necessary to equip the purely literary gardener? I call to mind as I write two of my friends—both welcome contributors to this paper, one of whom lives in a lovely garden within an easy motor run of our Northern capital, and the other in the far less beautiful surroundings of a London suburb, whose name is thinly veiled by calling it Dogbridge, to whom history is as the breath of life. Anything that adds to their stock of knowledge surely may be called practical. It is a different practical, of course to the being told how to dig, and plant, and sow, and alas! some do not seem to recognise it. Quite so. As Mrs. Browning puts it, "Its only he who sees takes off his shoes." When, however, we come to think of the contents of the "Kalendarium" we are on somewhat different ground. I put it like this. Suppose on a single day these three entertainments were to be advertised: the very best Charlie Chaplin film, the football Cup Final, and a sort of spiritualistic séance which would show each one his home and the places he knows best century by century right through the past, let us say, until the dawn of the Christian era, would not the biggest crowd be at the last named? The gardener, too, must wish to know what gardening was like at different periods of the past, and where can he get a better idea of it than in studying such a very practical book as the one which has set alight this

present article. I would like to take a leaf out of "The Charm of Gardens," and copy Dion Calthrop by quoting the entire work, but decency forbids— I have to think of our editor and my readers, some of whom might wish it at Jericho, as I would do myself were I to come across it in a weekly gardening paper—I hope, however, a very few extracts may not be unacceptable, when we remember upon how high a pinnacle Evelyn himself placed this little book when on the title page of his "Acetaria" he described himself not as might reasonably be expected, as author of "Sylva," but as author of the "Kalendarium Hortense"; and when we remember, too, the deliberate opinion of Cowley, who thus describes it: "The most useful Book that has been written in that kind, and which is to last as long as Months and Years." In this and in the majority of these old Kalendars we get sub-sections every month with some such headings as "Fruits in prime, and yet lasting," "Flowers in prime, and yet lasting" (Evelyn), the idea of which might usefully be revived. Such lists are very useful; but they seem to have dropped out.

In vain do we seek them in "The Calendar of Garden Operations" (1920), which is Paxton's in modern dress; or in our weeklies in the week's-work columns; and yet it seems to me just as necessary to know when an Apple will be in perfection for eating as to be told when to plant it; and to visualise the flowering of July as to know when to sow the seed. Then the importance of bees in those old days was far greater than it is now. Month by month Evelyn has a short paragraph about them. In September he writes: "No longer defer the taking of your Bees, strengthening the entrances of such hives as you leave to a small passage."

We get a peep at garden practice under September, he suggests the origin of our familiar word, greenhouse: "About Michaelmas (sooner or later as the season directs), the weather fair, and by no means foggy, retire your choice Greens and rarest Plants (being dry) as Oranges, Lemmons, Indian and Spanish Jasmine, Oleanders, Barba Jovis, Anonum Plin, Citysus Lunatus, Chamelaea tricocos, &c., &c." What a difference in the advice about Strawberries; now it would very likely be "Get some from Laxton Brothers of Bedford"; then it was "Plant Strawberries out of the Woods," just as it had been in the time of Tusser nearly a century before.

"Wife into thy garden, and set me a plot,
With strawberry roots, of the best to be got;
Such growing abroad, among thorns in the wood,
Well chosen and picked, prove excellent good."
(September's Husbandry in "Five Hundred Points of Good Husbandry.")

This is a curious bit under November: "Take up your Potatoes for winter spending; there will enough remain for Stock, though never so exactly gathered." It is clear "seed" from Scotland was not then contemplated. Earwigs must have troubled Evelyn's Nectarines rather badly. His denunciation is quite scriptural in its vehemence and wording, "They are cursed Devourers," he says. At the bottom of the same page in my edition (the eighth, page 85) he gives a bit of advice which we all should do well to follow when we are troubled by the unwanted visits of biting animals and which I find as true of flowers as of fruit. "Pull not off what is bitten; for then they will certainly begin afresh." It is difficult to stop, there are so many little tit-bits in the book. Perhaps some readers will think it worth while from what has now been extracted, to get the book themselves and enjoy it at leisure with a pipe in their own easy chair. *Sic Volo.*

JOSLPH JACOB.

THE CREEPING COTONEASTERS

THE members of the genus *Cotoneaster* which are prostrate, or nearly so, in habit comprise an interesting group: they are extremely useful in gardens and their ornamental value is not the least of their good points. They are all perfectly hardy, they will thrive in almost any kind of soil, in sun or shade, and they do not object to tree drip. Rapidity of growth is another attribute common to most of these *Cotoneasters* and one that is particularly essential in a class of shrub which is so often planted for the express purpose of quickly covering ugly rock faces and walls, untidy, stony corners, the ground beneath specimen trees and other places of the sort. Some of these species, in addition to possessing an attractive foliage and habit, bear a crop of brightly coloured berries, and all are plants which are adaptable for the smallest as well as the largest garden. Propagation is simplicity itself, for one has but to layer the creeping branches to provide plenty of rooted bits. In fact most kinds make their own layers naturally.

One of the most taking of these prostrate *Cotoneasters* is *C. adpressa*, a comparatively newcomer from China, but one which has rapidly become a favourite with rock gardeners and others owing to the pretty manner in which it will creep over a rock face, the fish-bone branches closely hugging every irregularity of the surface. This is a robust and fast grower, with a bright green, glossy foliage, which turns a deep red before the leaves fall in autumn. It flowers early, the blossoms being much like those of *C. horizontalis*, and the scarlet berries are ripe by August. If for some purposes the deciduous nature of *C. adpressa* may be considered a misfortune, the fact remains that were it an evergreen we should not have the autumn colouring nor the beautiful fresh spring green of the opening leaves, which is one of the most charming features of the shrub. Indeed, *C. adpressa* possesses all the excellent attributes of *C. horizontalis*, of which it might be deemed a miniature.

The evergreen Himalayan, *C. congesta* (*nummularia*), said to be a form of *microphylla*, viz., *C. m. gracialis*, is another of the indispensables and a most delightful shrub, with ruddy, often claret-coloured stems and comparatively large leaves of a soft and pleasing green. This is a first-rate plant for rambling over bold rockwork or for covering sloping banks and it will do equally well for carpeting on the flat. We have it growing among *Erica carnea* with good effect, the branches arching in characteristic manner as they weave their way through the Heath. The result is pleasing at all seasons, though it must be admitted that *C. congesta* does not berry so freely with us as the other kinds do. There appears to be an infinite variety of forms of *C. congesta*, or perhaps it would be nearer the truth to say that this shrub will materially alter its manner of growth in accordance with its position, aspect and other influences, not always easy to define. Thus it may be seen as quite a small-leaved shrub, clinging like Thyme to a rock and yet a few yards away, as in Mr. Buxton's fine garden at Bettws-y-Coed, it will rise up into a conical mound 4ft. to 5ft. in height and as symmetrical as if it had been sheared by a topiarist.

Like *congesta*, the allied *C. microphylla* can be used in all manner of ways. Though so often seen as a covering for cottage walls, it is, I think, more pleasing as a carpeter or when allowed naturally to mound into a low bush. The small, glossy foliage is beautiful at all seasons. The plant is a profuse bloomer and, like most others

of its race, is very attractive to bees, wasps and flies when the flowers open in spring. We grow it also on Heath banks and the fine crop of fruits it almost invariably bears, the berries being of a peculiarly high-toned chalky pink, is usually carried through the greater part of the winter. *C. microphylla* is indifferent as to aspect and does well in shade, but full exposure is essential to free berrying. Though so common everywhere, this is still one of the best *Cotoneasters* of its class. It also is liable to "sport" curious aberrations from the type.

C. thymæfolia might be described as a dwarf form of *microphylla*, but its evergreen leaves (the smallest of the family) are more oblong in shape and the young wood is more distinctly silky before it assumes the ruddy gloss of maturity. This is a close grower, admirable for the small rock garden, and while the shining, deep green foliage, which will make a dense mat, is refreshing at all seasons, the little creeping branches produce pretty pinky flowers, followed by scarlet berries. Though also a Himalayan species *C. thymæfolia* is apparently quite hardy.

Another very prostrate evergreen species, not unlike the foregoing in habit, is *C. pyrenaica*. But the leaves of this one are larger and hardly so thick and leathery as are those of *thymæfolia*, being more akin to those of *congesta*. Indeed, there seems to be no little difference of opinion among nurserymen as to what *C. pyrenaica* really is, forms of *congesta* and *thymæfolia* being sometimes sent out under its name. *C. rupestris*, often listed as a creeping kind, is a strong-growing, deciduous species more after the style of *horizontalis*, but with more horizontal "planes"— unless I also am fostering a case of "mistaken identity," almost unavoidable in this confusing race.

There can, however, be no mistake about *C. humifusa* (*Dammeri radicans*), for this is entirely distinct from any other, a perfectly flat, creeping plant, whose long trailing stems seldom rise more than an inch or so above the ground or the rock face which they so elegantly drape. The large, willow-like leaves are partly deciduous, those which are shed assuming brilliant autumn colours. *C. humifusa* flowers in summer, the little white or pinky-white flowers being held erect on short stems which rise clear above the prostrate branches. These are followed by crimson fruits which, if the mice spare them, usually remain until winter. This species is one well worthy of a good place. It should be given at least a couple of square yards, in sun or half shade, and it is seen to best advantage when grown on about the level of the eye.

Several new evergreen or sub-evergreen *Cotoneasters* have been introduced of recent years, mainly from China, most of which are still, I believe, nameless. One of these growing here might be described as a dwarf form of *C. horizontalis*, but with semi-deciduous foliage, and another appears to be wholly evergreen, the comparatively large, glossy leaves as well as the habit being, to the average observer, identical with *C. prostrata*, as listed by the trade.

C. praecox is one of the most distinct of the more recent novelties, a strong-growing shrub which proceeds with a creeping and arching habit over a considerable space, promising eventually to make a low mound. The leafage, which is deciduous, is larger than is that of *congesta*, a fine, rich ivy-green and highly burnished, but it has not, thus far, given us such fine autumn colour as *horizontalis* usually does. *C. praecox* is so called from its habit of fruiting early, the berries, as

large as peas and in a striking crimson, being ripe in July.

I have referred to the confusion which exists regarding the identity or naming of many *Cotoneasters* by nurserymen, but while those who compile trade lists may perhaps be pardoned for making errors where "doctors disagree," many such irregularities might be avoided. For example, I have before me a catalogue issued by one of the foremost nurserymen in this country. In it

CC. horizontalis and *houpinensis* are given as *evergreens*. In another list of an equally reputable firm, *C. adpressa* is also listed in the evergreen section. As the trade catalogues generally are so helpful to amateur gardeners, it seems a pity that such obvious slips should be made, and I take this opportunity of suggesting that a little more accuracy would be an inestimable boon to those for whom the catalogues are mainly intended—the struggling novices. A. T. J.

Beds of Sage may also receive some stimulating manure at this time, forking it lightly in between the rows. These little attentions are necessary where well grown herbs are desired and, if done now, considerably facilitate the carrying out of other work during the spring months.

The Hardy Fruit Garden.

Loganberries.—Cut away all the old growths of these and tie in the quantity necessary for furnishing the poles for next season's fruiting. Where the planting of these is contemplated, the grower would be well advised to choose a part where their rampant growth will have full scope. The rougher or outer portion of the garden suits this strong-growing Bramble admirably.

Cleansing Fruit Trees.—The important work of winter spraying fruit trees should be preceded with immediately the pruning in the various parts of the garden is completed. Where a large number of trees have to be dealt with, a knapsack sprayer proves more economical and effective than an ordinary syringe. A calm day should be chosen for carrying out the work. Among the many preparations recommended for the winter spraying of fruit trees, we find none more suitable than Bentley's Concentrated Alkali, as it destroys moss and lichen as well as the many insect pests harbouring in the crevices.

The Pleasure Grounds.

Protecting Tender Shrubs.—Now that severe frosts are imminent, the more tender plants in the shrubbery or on walls or trellises should receive a certain measure of protection. This is especially advisable in the case of small or newly planted specimens. Feathery spruce branches are most useful for the purpose of sheltering the plants, while bracken is also of value for tying round the small-growing sorts.

Planting Hedges.—Various sorts of hedges may now be planted, using discretion in the choice, according to the site and utility of the hedge. For boundary hedges Thorn and Beech are best, while for a quick-growing screen, Privet and *Thuja Lobbi* are popular. Holly, Yew and Box also provide desirable evergreen divisions or shelters in the pleasure grounds.

Magnolia stellata.—This beautiful Japanese shrub should be planted now, as it flowers during April and provides a most pleasurable sight with its mass of waxy white blossoms. It is of undoubted hardiness and is of close and compact habit, being exceedingly floriferous and proving, with us, to be the most satisfactory of the *Magnolias* planted in the open. JAMES McGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

GREENHOUSE AND CONSERVATORY.

Bouvardias as they pass out of flower should be removed from the greenhouse and stood in a dry, airy house, where a temperature of 40° to 45° can be maintained. The plants should be kept dry at the roots for several weeks and towards the end of January should be partially pruned back and removed to a warm, moist propagating house, where, if given water at the root, they will soon start into growth. When the young shoots are about 3 ins. long they should be removed for cuttings, for at this stage they root readily in a warm propagating case. Many cultivators complain that *Bouvardias* are difficult to propagate, but their failures are usually due to using too old wood for cuttings. If young growths are used there is no difficulty in rooting them. *Bouvardias* may also be propagated by means of root cuttings; old plants are best for this purpose. They should be turned out of their pots and all the soil shaken away from the roots; select some of the thickest roots and cut them into pieces about 1 in. in length. They should then be placed in pans or boxes of sandy soil and if stood in a warm propagating case they will soon start into growth. Some growers contend that root cuttings make the best plants; personally I have never been able to detect any difference between them. It must be remembered that all varieties of *Bouvardia* do not come true from root cuttings. The variety *Bridesmaid*, for example, when propagated by means of root cuttings, always gives a proportion of *Hogarth* fl. pl. *Bouvardias* are so beautiful and useful that it is a pity their cultivation is so generally neglected at the present day. They are very subject to attacks of *Begonia mite*, which can be prevented by the use of Campbell's sulphur vaporiser. During the last few years white fly has proved very troublesome and this pest may be kept in check by the various remedies that are in general use. Fumigating with sodium cyanide

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Celery.—It will be advisable to have means of protection ready for immediate use for the onset of the Celery crop during a sharp spell of frost. Failing any permanent covering, made of boards or other material, it will be enough liberally to strew some dry straw or bracken fern over each row, taking care always to remove the same when the frosty period breaks. Although Celery is better left in the ground when possible, a week or ten days supply should be lifted upon the approach of a severe spell of frost and kept fresh and in good condition by heeling in the sticks deeply in soil in an unused frame or close to a wall.

Parsley is so indispensable to the kitchen that no effort should be spared to keep up a regular supply. It has so far been easy to make good pickings from outside without giving the plants any protection. From now onwards, however, some shelter should be afforded the crop. A simple way of giving such protection is to drive in stakes of suitable length along the rows or bed and stretch strands of wire to connect them all, over which it is an easy matter to place canvas or matting.

Peas and Beans.—Autumn sown crops that are now nicely through the soil may receive protection by having the soil drawn up in ridges on each side of the row. Keep a look-out for slugs and mice.

The Flower Garden.

Hardy Ferns.—Should the weather be open and favourable, planting may be done now or it may be postponed until spring. When preparing a fresh site for a colony of these plants, liberal supplies of old leaf-soil and common peat should be employed. It may be necessary, for the sake of appearance, to cut away the old yellowing fronds of established Ferns in some parts of the garden at this season of the year, but they should always be left if possible, as they are of great help later on in warding off cold winds, etc., from the young fronds. All leaves which have accumulated among the plants should be allowed to remain until spring, when, if sufficiently decayed, they may, with great advantage to the plants, be forked into the ground or have some old soil thrown over them, thus making a good mulch and adding to this just such rooting medium as the plants appreciate.

Lawns lacking in vigour will derive great benefit from a good dressing of well rotted manure, leaf-soil and good loam. Mix the whole well together and pass through a coarse sieve before spreading evenly over the lawn where required, to a depth of a couple of inches, the compost being occasionally raked over during winter. Lawns requiring no such treatment should have an occasional sweeping and rolling, the latter being particularly beneficial on light soil.

The Hardy Fruit Garden.

Basic Slag.—This is recognised as a useful phosphatic manure for all fruit trees, particularly those cultivated on heavy land. Being somewhat slow of action, it is a good plan to apply it during the autumn months, so that it may filter gradually into the soil during the winter. It may be spread fairly liberally over the ground covered by the head of each tree or bush dealt with.

Vines.—The necessary pruning of these can be done now, unless the weather is very frosty, when it is not advisable to prune, which, indeed, applies to any other kind of fruit. Spur closely in unless wood is required for extension or is being encouraged to develop so that it may replace exhausted portions, in which case the young growths, if thoroughly ripened, may be left from 1 ft. to 3 ft. in length. Nothing is gained by having spurs or rods too close together.

Fruits Under Glass.

Late Grapes.—Nothing will be gained by allowing these to hang longer on the vines, so they should be cut and taken to the grape-room or wherever they are to be stored. The great point about the storage quarters is that an even temperature must be aimed at, and the light should be excluded. As a general guide, if a temperature of 45° to 50° is regularly maintained, the bottles kept replenished, as necessary, with water, and all decaying berries immediately removed, there will be little cause for worry about them keeping, always providing, of course, the Grapes are in a fit condition to commence with.

Vine Borders which extend outside the house are better if given some measure of protection from excessive rain and snow. It is not so important for the borders belonging to mid-season Vines, but applies particularly where there is an outside border belonging to the early house. A suitable covering may be made by placing a good depth of newly gathered beech or oak leaves, then a layer of straw to hold them in position and then over both place some boards or sheets of corrugated roofing, arranging them so that the rain will be carried away from the border.

H. TURNER

(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Gardens.

Cucumbers.—Where well heated pits are available for forcing purposes a sowing may now be made of a free setting and quickly maturing variety. Sow singly in 2½ in. pots and plunge the pots to the rim in fibre or sand in the warmest corner of the stove or pit. Care must be taken that the seedlings are never subjected to a sudden check by the lowering of the temperature, or chilled by the injudicious use of the watering-can. When watering is necessary see that the water is of sufficient warmth to have no ill-effect on the young plants. Varieties such as Blair's Prolific and Veitch's Sensation have proved reliable sorts for forcing during the winter and spring months.

Salads.—Continue to sow Mustard and Cress in boxes at intervals so that a continuous supply of tender growths may be maintained. Lettuce in frames should also be looked over and growth encouraged, ventilating freely so that damp may be checked.

Autumn Sown Onions.—In many gardens the autumn sown crop has been making extra growth owing to the lengthy spell of mild weather experienced during late October and November. Break the surface soil between the rows and give a good surface dressing of wood ash. The soft growths of young Onions are at times more readily damaged by cutting winds than by severe frost, so that it is beneficial to place a few wattle hurdles or spruce branches in position to shelter the crop.

General Work.—Continue to clear the ground of spent crops and tidy up the vegetable quarters in preparation for the further carrying out of digging or trenching operations. Cabbage leaves, soft weeds or other quick rotting material may be buried in the trench. Add leaf-mould to heavy land whenever such is available as this proves a valuable substance to assist in the lightning process. Old hot-bed manure in which leaves predominate is also excellent for this purpose.

Herbs.—The herb border should also receive some little attention at this time, cutting over the withered foliage and leaving the beds clean and clear of weeds. Mint being to a large extent surface rooting, derives much benefit from a surface dressing of leaf-mould or old potting soil.

is most effective, but it is so dangerous that one does not care to advise its general use.

Hydrangeas that were propagated during the summer and have been standing in cold frames exposed to the weather, should now be ready for forcing. For this purpose plants with strong forward buds should be selected. When first taken indoors they should not be placed in too high a temperature, 40° to 45° being high enough for a few weeks, after which it may be increased to 55° or 60°. Hydrangeas, when growing, enjoy copious supplies of water at the roots, but when taken indoors at this time they are more or less at rest, thus watering should be carefully done until the plants are in active growth, when the supply may be increased. When in full growth the plants will benefit by frequent applications of diluted liquid manure or soot water. Large specimen plants stored for the winter should not be allowed to become over dry and should be examined occasionally. Blue Hydrangeas are usually in favour and there are various methods, more or less successful, of imparting the desired colour. Alum and iron filings are frequently used, but it does not always follow that they will produce the desired effect, the colour often being an ugly reddish purple. This is probably often due to the treatment not being started early enough, and no doubt water plays an important part, and it is well always to use rain-water. In recent years there have been several proprietary preparations that are successfully used by trade growers to impart the desired blue colour. If any such substances are used the treatment should be started with the young plants and should be used regularly until they flower. Only the pink-flowered varieties respond to the treatment.

Plants for Forcing. according to requirements, should be introduced to suitable houses, remembering always to start them gradually, as too high a temperature at first is apt to result in failure, bulbous plants going what is known as "blind," while shrubby plants often drop their buds.

Freesias that were potted up early should now be well advanced, and should be removed from the cold frames to a light airy greenhouse. The plants should be kept carefully supported, for the growths, if allowed to fall over, never properly recover. When in full growth Freesias enjoy frequent applications of diluted farmyard manure or soot water.

Hippeastrums.—Where early flowers are required a batch of plants should be placed in a warm house and if they can be plunged in a warm bed they will develop quicker. For this purpose bulbs that were started early last year should be selected as they, of course, finished their growth early and having had longer rest will more readily start into growth. It is also important to select plants that are in good condition at the root, as they suffer no disturbance from repotting and start away much quicker than newly potted plants. To my mind they have an added charm as they develop their foliage along with the flowers. The plants should be thoroughly soaked at the root, turned out of their pots and the drainage corrected if necessary. Some of the surface soil should be removed and replaced with a top-dressing of good loam, to which a little leaf-soil and coarse clean sand has been added, also a 6in. potful of fine bone meal to every bushel of soil. Very little water is necessary at the root until the plants are in active growth. J. COVETTS.

Royal Botanic Gardens, Kew.

The Sloe or Blackthorn. In the desire to have in our gardens the choicest exotic trees and shrubs the best of our native British flora must not be overlooked. Among these is the Blackthorn of our hedges and coppices, *Prunus spinosa*, of which the leafless black branches are whitened with snowy blossoms in March and April. A small tree or large shrub, the Sloe spreads by means of suckers and is also raised from seeds. An important consideration is that trees growing in poor soil usually flower more freely than in deeply cultivated rich ground. Equally or even more valuable for the shrubbery border is the double-flowered variety, *flore pleno*. This is usually propagated by budding, using the Plum as a stock.

The Valerian. A word or two should be said in praise of the Valerian, *Centranthus ruber*, at this season, when most of us are

thinking about the spring planting of perennials. We do not see it in gardens nearly as often as we should, the popular idea being that it is a strong-growing weed and unworthy of a place. Splendid effects may be produced if it is planted towards the top of a very dry wall garden, or planted on the boundaries of shrubberies where little else will grow. Its floriferous nature (for it gives masses of bright red flowers all through the summer) and the easiness of its cultivation make it a most desirable town garden plant, and so long as it is not permitted to seed itself and is lifted and divided every two years, it can easily be kept within bounds. Its height is somewhat variable, ranging from 1½ feet to 3½ feet. The second year it forms fine "bushes," which look neat and bright in the mixed border.

A Quaint Iridaceous Plant.—*Aristea corymbosa* is an August-flowering greenhouse shrub with flowers of a beautiful clear blue (Tone I, series 211, in the "Répertoire des Couleurs"). It is botanically interesting as being the only member of the Iridaceæ having secondary thickening. The short woody stem is apparently an upright replica of a rhizome, roots being produced from the younger regions of it at two distinct periods—early in the year and again in July, when the flower-spikes push. This periodic rooting habit is repeated in the cuttings; they callus fairly easily, but only produce roots at the same moment as the parent plant.

Staphylea colchica.—A pretty shrub that should be in every garden. The drooping terminal clusters of cream white bloom come in May with the Lilacs, a little in advance of the Gelder Roses. Though it is quite hardy, it likes a sheltered place and does not object to a little shade. Prepared plants are often used for forcing.

R.H.S. Gardeners' Diary.—We have received a copy of this excellent pocket diary for 1923 which reflects credit alike on Editor—Mr. W. R. Dykes—and the publishers. The make-up of the book is similar to previous years and there is as much daily space as is usually afforded in a pocket diary. An opening of the book (two facing pages) is devoted to each week's work and advantage is taken of the space which would accommodate another day to include, in this most convenient place, a summary of the week's work. An immense amount of incidental information is included on other pages, ranging from "Alpines, Seeds of," to "Worms on Lawns," and including *en route* "Scotch Moorland Berries," the whole being efficiently indexed. As the price is only 2s.—no more than one needs must pay for an ordinary diary—no gardener should be without one.

ANSWERS TO CORRESPONDENTS

THE FRUIT GARDEN.

CURRANTS AND STRAWBERRIES FOR NORTHERN DISTRICTS (C. F. S., Bannockburn).—Red Currant Ruby Castle and Strawberry Royal Sovereign would answer our correspondent's purpose. Both kinds are hardy, prolific, strong-growing and of high-class flavour.

DIGGING NEAR FRUIT TREES (G. P. T.).—The soil under fruit trees should be kept clean—free from weeds and injurious insects. To ensure this the surface soil must be loosened with the Dutch hoe or the garden fork. Furthermore, the work must be done carefully so that the fibrous roots are not broken off. Digging or disturbing the soil any deeper than is necessary to accomplish the purpose named, and to ventilate it, would prove injurious. A spade must not be used, as the blade would cut off roots without the workman being aware of it. Only in exceptional cases should grass be allowed to grow under fruit trees. Even in grass orchards a space several feet from the stem should be free from grass.

THE GREENHOUSE.

VERONICA PLUCKEANA (F. G. P.).—When the plants have flowered place them outside in a sheltered position, not in a very hot one at first. Apply clear water carefully; if much pot-bound, re-pot the plants directly new shoots grow, when pricking is advisable wait till the young shoots are 1in. to 2ins. long before re-potting. Loam two-thirds and peat one-third make a suitable compost. Pot firmly and be very careful about watering afterwards. While new growth is being made the plants must be in a quite open position and remain there till September. The winter greenhouse temperature should range from 40° to 45°. Propagate cuttings when available late in spring or early in summer in a similar compost and sand added, under a bell-glass or frame.

CHRYSANTHEMUMS ATTACKED (D. W., Surrey).—The Chrysanthemums attacked by the leaf-mining maggot should be sprayed with a nicotine wash which will kill the larvae boring in the leaf. Where only a few are concerned they may be killed in their burrows by pinching between finger and thumb. Spraying plants with paraffin emulsion or dusting with soot are excellent preventives.

KITCHEN GARDEN.

ABOUT SOWING PARSNIP SEEDS (T. L.).—In a very light, sandy soil the seeds may be sown at this early date and the resultant roots grown to a large size. In heavy, retentive soils the majority of the seeds would rot, especially if a spell of wet weather came. It would be much the best if our correspondent trenched, or deeply dug the soil now and prepared it thoroughly for the seeds at the end of January. As the ground is clayey this treatment would ensure the best results.

THE CHINESE ARTICHOKE (A. J. M.).—This artichoke (*Stachys tuberosa*) is not extensively grown now; for some years after its first introduction it was. The roots are spiral in form, an average size of one being 2ins. long and ¾in. across the centre—the thickest part. The roots should be planted in March, 1ft. apart in rows 2ft. asunder. Any ordinary garden soil will be suitable, especially that manured the previous autumn. The plants increase and spread in the soil very rapidly, yielding tubers in abundance. They should be boiled till tender, not pulpy, then lightly fried in boiling fat till nicely browned and, after draining, served hot.

CLUB-ROOT (F. H., Wimbledon).—Dress again with ground chalk lime at the rate of 1 bushel to the square rod, but do not plant any Brassicas for a year. Gas lime is useless. Manure may be applied to the Rhubarb any time now and in February cover the roots to blanch the young growths. Litter of dead leaves about the boxes will hasten growth in spring.

MISCELLANEOUS.

NAMES OF PLANTS.—J. C., Shrewsbury.—1, *Cratægus Pyracantha*; 2, *Veltheimia viridifolia*.

NAMES OF FRUIT.—W. A., Tregothuan.—Apple Gascoyne's Scarlet—E. H. K., Salop.—Apples:—1, Wealthy, dessert; 2, Rival, ordinary or dessert; 3, James Grieve, dessert. The Pear was too shrivelled to identify with any certainty.—"Torquay."—Apple Scarlet Pearmain.—C. B. F.—Apple Lord Burghley.—W. P. M., Streatham.—Apples:—1, Yorkshire Greening (green striped); 2, Seaton House (yellow with faint flush); 3, Spewin too diseased and damaged to identify.

PUBLICATIONS RECEIVED.

"Potato Growing in Australia," by G. Seymour. Published by Messrs. Whitcombe and Tombs, Limited, Melbourne, and 9-10, St. Andrew's Hill, Queen Victoria Street, London, E.C. Copiously illustrated. Price 3s.

Illustrated catalogue of rare books, Part I, largely consisting of herbal and garden literature and books on garden design, beautifully illustrated. Published by Messrs. Wheldon and Wesley, 2, 3, 4, Arthur Street, New Oxford Street, London, W.C.2.

"The Romance of the Apothecaries Garden at Chelsea," by Dawtry Drwitt. Published by Messrs. Chapman and Dodd, Limited, 66, Great Queen Street, London, W.C.2. Price 7s. 6d. net.

"Patent," "Smokeless and Semi-Smokeless Fuel," by J. Arthur Greene and F. Mollwo Perkins. Published by Sir Isaac Pitman and Sons, Limited, Parker Street, Kingsway, W.C.2; price 3s. net.

"The Old English Herbals," by Eleanore Sinclair Rohde. Published by Messrs. Longmans, Green and Co., 30, Paternoster Row, London, E.C.4; price 21s. net.

"How to Form a Company" (fifteenth edition), by Herbert W. Jordan. Published by Messrs. Jordan and Sons, Limited, Chancery Lane, W.C.2; price 1s. 6d. net.

CATALOGUES RECEIVED.

Messrs. Sutton and Sons, Reading.—"Anatent's Guide," being an illustrated catalogue of flower and vegetable seeds, with cultural directions, of which the coloured plates are really excellent.

Messrs. James Carter and Co., Raynes Park, London, S.W.20.—"Garden and Lawn"—an illustrated seed catalogue.

Mr. T. H. Dippall, Hadleigh, Suffolk.—Seeds, Messrs. David Green and Son, 9, Seymour Road, Ansell, Lytham.—Government surplus, including many items of interest to gardeners.

Messrs. Allwood Brothers, Wivelsfield Nurseries, Hayward's Heath, Sussex.—"Carnations, abridged list.

Messrs. W. Watson and Sons, Limited, Killiney Nurseries, Killiney, Co. Dublin.—Fruit and Rose Trees.

Messrs. Dicksons, Chester.—Forest Trees, Ornamental Trees and Shrubs.

Mr. H. J. Jones, Rye-croft Nurseries, Hither Green, Lewisham.—Chrysanthemums, Michaelmas Daisies, Phloxes and Delphiniums.

ORCHARD

GARDEN

WOODLAND

Vol. LXXXVI.—No. 2667.

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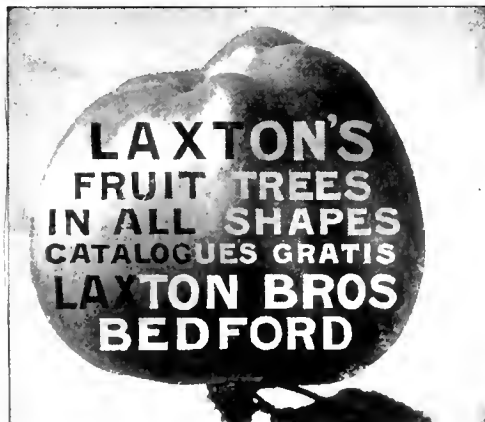
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PERENNIAL PLANTS FROM SEED

(Continued from page 640.)

THE Foxglove, *Digitalis purpurea*, is one of those "shaky" perennials which wise folk treat strictly as a biennial and either raise regularly from seeds or allow a few spikes of the best forms to remain and seed themselves. There are very few people who can so arrange plants as to produce the natural effect which self-sown seedlings always give. There are many who prefer the newer spotted forms to the typical hedgerow plant, but, somehow, the florist has been less successful with the Foxglove than with most plants he has taken in hand and beyond a variation in the spotting and a certain paling of the rich colouring of the typical plant, he has achieved nothing. The admirable white form he cannot claim, as it is fairly common among wild plants. This white form is an excellent border plant, but is really seen to best advantage in thin woodland.

All perennial Poppies are readily raised from seeds, indeed, some of them are short-lived and the only really practicable method of renewal is by raising seedlings. The Iceland Poppy, *Papaver nudicaule*, is a case in point. Like the Foxglove it should be treated strictly as a biennial. The extraordinarily large flowers sometimes seen in florist's shops represent a very fine strain combined with the best of cultivation. The seeds are sown, as soon as ripe, in really good, deeply cultivated soil and the seedlings transplanted, as soon as large enough to handle readily, into their permanent quarters, leaving 15 ins. between the plants. A few of the very best plants are marked for seed and the expanding blossoms gathered each morning for market from the rest. By this means the strain is kept up to the mark or even improved. *Papaver alpinum*, the Alpine Poppy, is little more than a miniature of the last-named species, but, oddly

enough, it is far more perennial. There is a great variety of colouring with this charming little species and a fringed strain with deeply cut petals is now obtainable, which, if kept apart, reproduces itself fairly true from seed.

It is exceedingly interesting to raise good forms of the Oriental Poppy from seed. Seeds from one of the spreading-habited, salmon-pink forms will often produce a proportion of erect growing plants with crimson-scarlet flowers and an immense variety of other forms besides. Do not try to rush them into commerce, however, as magnificent named varieties; for the sorts sent out by Mr. Amos Perry represent the pick of many thousands of seedlings, and those not raised indiscriminately but from carefully selected crosses. Do not be tempted to introduce *Papaver pilosum* into the garden, either in the form of seeds or plants. It has no special beauty and once established is almost impossible to eradicate. It seems to cross readily with *P. orientale*, too, and the resultant seedlings are also worthless.

Florists' Pentstemons are exceedingly interesting to raise from seed. A start should be made with

a selection of really first-rate named varieties and inferior sorts should be ruthlessly discarded, nor should fine blossom and well proportioned spike be allowed to outweigh a bad constitution and a tendency to "rust." From a sowing under glass early in January many plants should flower the same autumn. It is better, however, to sow the seeds as soon as ripe and winter the young plants under glass. Some day, perhaps, an amateur will raise a pure white florists' Pentstemon. There is no such thing at present! There is room, too, for improvement in the pale shades generally. There is an immense number of Pentstemon species, probably all easily raised from seeds. Some of these are every year offered by nurserymen who specialise in seeds of hardy perennials.

The perennial Sea Lavenders, *Statice*, again, are readily raised from seeds. The most generally useful plant is *S. latifolia* but, unfortunately, this is quite the most difficult to increase satisfactorily from seeds. A very variable plant, undoubtedly the forms with deep coloured, almost violet flowers are most desirable, but however carefully one may select one's seed parent,

a proportion of plants which will give wash-coloured flowers is produced. Still, seed raising produces a number of good plants quickly and after selection has been made, vegetative propagation will quickly still further increase the number. *SS. Gueldri, eximea* and *tartarica* are other worthy species to raise from seeds.

Perhaps it may be as well now to deal with a few rock plants of easy culture from seeds, leaving to a subsequent article consideration of what are usually considered more difficult species. The generality of Alpine *Violas* are as easy to raise as florists' *Violas* or *Pansies*, which presumably most amateurs have at one time or



WHITE FOXGLOVES. ESPECIALLY ADMIRABLE IN WOODLAND.

another raised from seed. Such are the rosy-purple *V. bosniaca*, the glorious Grecian Violet, *V. gracilis* with flowers of imperial purple, *V. calcarata*, extraordinarily variable and, sometimes, wondrously ugly and, if wanted, *V. cornuta*. This last, however, can be increased at express speed from cuttings and as the seedlings are usually unsatisfactory in colour, few will wish to bother with it. *V. lutea* of our Derbyshire and Yorkshire hills is also readily raised from seeds, but likes mortar rubble in the compost. A word of warning! No *Viola* species in the rock garden is safe from cross-fertilisation. Imported seeds only should be sown.

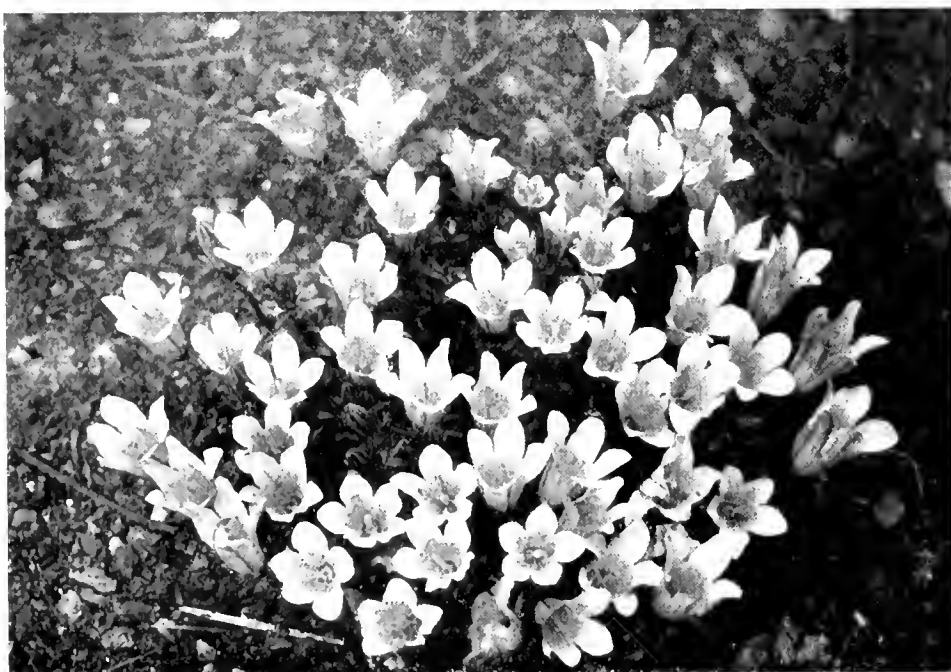
The alpine *Campanulas* for the most part seed freely and the seedlings are easy to raise in pans of gritty soil with a proportion of old mortar rubble. Many of the seeds are fine so that careful watering is necessary and if any artificial heat is given a sharp look-out must be kept for green fly. Suitable species are *CC. carpatica*, *c. turbinata*, *pulla*, *barbata*, *sarmatica*, *Portenschlagiana*, *garganica* and *Raddeana*. The nearly related *Edraianthus* (*Wahlenbergia*) *serpyllifolius* likes similar conditions. Of taller *Bellflowers* suitable for the border which are worth raising from seeds, mention should be made of *CC. persicifolia*, *lactiflora*, *latifolia*, *bononiensis* and *alliarifolia*. The first named is an invaluable border plant which varies greatly from seed. Fortunately almost every form is beautiful. *Campanula lactiflora* is fine for massing and the best coloured forms breed true from seed it paler ones are not tolerated in the neighbourhood. *C. bononiensis* is a particularly slender and graceful species for use towards the front of the border where its spiry habit serves to break monotony of outline. *C. alliarifolia* is an admirable species for wild garden or woodland.

The *Cranesbills*, if we may thus group together the very nearly related *Geraniums* and *Erodiums*, are quite readily raised from seeds and many of them if planted in a favourable situation will proceed comfortably to naturalise themselves. Unlike their cousins the *Pelargoniums*, almost all species are entirely hardy. There is, by the way, one species of *Pelargonium* which is hardy enough and very beautiful and interesting withal. This is *P. Endlicherianum*, with brilliant rose flowers. It is readily raised from seeds. Some of the *Geraniums* may be increased with extraordinary rapidity by division—such an one as *Endressii*, for instance. It is well to raise from seed those of slower growth and more compact habit, such as *Traversii*—most beautiful of all, with its silk-covered foliage, but alas! not over-hardy—*cinereum* and *argenteum*, two close-growing species for the rock garden and the beautiful blue *Wallichianum*. The Bloody *Cranesbill*, *Geranium sanguineum*, a handsome native plant, is also worth raising from seed. All the *Erodiums* are best raised from seed. The largest species is *E. Manescavi*, with brilliant purplish red flowers, and the choicest and neatest *E. ananum*, with soft rose blossoms, but there are a number of others, all interesting.

Many *Silenes* are of the easiest culture from seed. The writer considers *S. alpestris* the best species of all, with its beautifully fringed flowers, startling in their purity of whiteness. This is an exceedingly accommodating plant and naturalises itself from self-sown seeds as well as increasing rapidly by underground runners. *S. Schatta* is exceedingly valuable as an autumn-blooming species, with vivid purplish-rose flowers in dark calyces. It is readily raised from seed, but, strangely enough, seldom increases itself by self-sown seedlings. *S. vallesia*, about which there was recently (page 608) an interesting note in *THE GARDEN*, is also easily raised from seeds. *S. Saxifraga* is another alpine species easy to raise.



MOSSY SAXIFRAGES VARY IMMENSELY FROM SEED



BEST RAISED FROM SEEDS. EDRAIANTHUS SERPYLLIFOLIUS



THE GRECIAN VIOLET, VIOLA GRACILIS.

SINGLE ROSES

A FEW weeks ago *THE GARDEN* gave a good deal of notice to the single Rose—species and otherwise. I do not remember to have seen it pointed out, however, that the cultivation of most of these Roses is possible under conditions which would render the raising of doubles or bedding varieties a disappointing occupation. That, I think, is a very strong argument on behalf of furthering the popularity of the wild or other single Rose, for it means that a vast number of people who could never hope to become rosarians in the orthodox sense, owing to soil conditions or locality, might enjoy the growing of hundreds of Roses whose charms are every bit as fascinating (some think a good deal more so) as those of our Hugh Dicksons, Chateaux and Testouts. To take our own case, we once tried a good many of these double, or decorative, sorts, and none of them ever proved that "the game was worth the candle." They are miserable in our hot, shaly, unretentive soil. So, having struggled through the novice stage, in which one is so apt to try to achieve the impossible instead of concentrating upon plants for which the soil is really fitted, practically all the double Roses were scrapped and singles introduced. From that day we have enjoyed abundant success, for the conditions which the bedding Roses rejected happened to be just what the others liked.

If the National Rose Society does not cater for our single Roses at its shows, which I am assured is the fact, it matters little. I very nearly wrote "so much the better!" Not that I have any animosity against the N.R.S. in particular, but a long experience of shows and shewing impresses upon me the belief that the "fancy" exhibit, whether it is a Smithfield ox, an Olympian Orpington or a prize Pansy, is a vain thing; but that is by the way. What I mean to say is that it matters little what the attitude of organised Rose culture happens to be towards the single Rose, because the latter already has hosts of admirers, and they are increasing year by year. The wish may be father to the thought, but I believe that the star of the single Rose, and especially the species, is rising, and that we are not far from witnessing in this country a cult of this class of Rose which I read is already firmly established in America.

The introduction of the Penzance Briars, with their wonderful range of choice colours and ease of culture, doubtless gave a great impetus to the popularising of the single Rose. Whether these Penzance Roses are glowing with the wonderful tints of *R. lutea* on the one side or reminding us of the incomparable rose pink of our own wild Briar on the other, they are always irresistibly attractive. Many of them have fragrant foliage, and they produce an autumn-winter crop of gaily coloured fruits. Pruning they are better without, and the majority of them will make large, sturdy bushes which will hold themselves up without support. If the individual blossom is soon over, the long, arching branches fully compensate for this by producing an almost interminable succession of bloom during the pleasantest part of the gardener's year, and not a few varieties will often again break into partial flowering in autumn. These Roses, as I have suggested, will flourish where the average bedding variety would do no good. In our gritty, sharply drained soil, for example, they are simply given a little old manure and semi-decayed vegetable compost under and around the roots at planting-time and left alone.

The mention of *R. lutea*, or the Austrian Briar, reminds me that in this species we have a single

Rose of large size, perfect form and most magnificent colouring, one that is an ideal plant for warm banks on any light soil. There are two well known forms of this superb species called the Austrian Copper and the Austrian Yellow. The latter is a good rich yellow, the former a fiery blend of orange, copper and scarlet with a reverse of real old gold. *R. lutea* makes a loose-habited, elegant bush of medium height, and the flowers are borne in profusion on the gracefully arched and pendulous branches.

Quite the most lovely single Rose of recent introduction is *R. Moyesii*, of which there has been so much written of late that one hesitates to add to the eulogy of this enchanting thing. *R. Moyesii* has so many good features that it is difficult to say which is the most charming. There is the peculiarly thick and velvety texture of the petals and their fascinating colour—a very deep blood crimson with rich ruby lights is as near as



THE RAMANAS ROSE, *ROSA RUGOSA*.

I can get it—and this centred by a conspicuous mass of almost saffron yellow stamens whose anthers shed their contents in a scintillating dust of gold upon the crimson velvet beneath them. Yet another very characteristic feature of this handsome Rose is the durable nature of the blossoms, which remain untarnished for several days, perhaps a week or even more. The curious tilt of the flower, which is slightly inverted, as it looking downwards, has doubtless no little influence in prolonging its life and making preparations for the enormous bottle-shaped fruits which follow.

Then we have *R. Hugonis*, another Chinese introduction, and one that was raised at Kew from seed sent over by Father Hugh Scanlan, after whom it was named. This lovely species, whose foliage and prickly stems suggest the Scotch Rose, is also admirable for any light, even poor, soil. It is usually a very vigorous grower, throwing up 6ft. to 8ft. canes, which branch freely and sweep over in ropes of bright yellow blossoms.

All who have ever enjoyed the delicious fragrance which blows across sandy heaths and seaside links, where the creamy yellow Burnet Rose grows so profusely, will have experienced one of the

most delightful features of the Scotch Rose (*R. spinosissima*), which is an off-set of the wild Burnet. There is now a long list of Scotch Roses, all of which make first-rate plants for dry, hot banks, while the colours, if one includes the doubles, range from a good deep rose to blush, and from yellow to white. Perhaps the best of the singles is *R. altaica* (*spinosissima maxima*), whose abundant white flowers (May) are about 3ins. across, but there are various forms, all of them dwarf and useful for grouping where most other Roses would fail to exist. The fruits are almost black and the size of Sloes.

Another species which does remarkably well here in the meagre soil of a woodland slope is *R. alpina*, at once distinguished by its thornless stems and sea green, or emerald, foliage. This is also an early bloomer, the bright rosy red single flowers opening in May. These are followed by long and narrow, orange-crimson fruits. In some soils this Rose appears to grow to a considerable height, but it remains a medium-sized bush where the land is none too good and probably

flowers the more abundantly. The dwarf *R. pyrenaica*, with thorny stems, is a form of the above.

R. nitida is an excellent little species of about 18ins., the blossoms (summer) being a good bold pink. The stems of this Rose are thickly covered with crimson spines, of which the colour is brightest during winter, and the fine glossy leaves, which are entirely deciduous here, assume rich autumn tints before they fall. *R. indica*, another dwarf, said to be the original China Rose, is a parent of many of our bedding and Monthly Roses, and one that possesses some of the most valued attributes of these latter. The colours in some of the best singles, for example (notably Miss Lowe), are remarkable for their purity and depth, and *R. indica* is, perhaps, the most perpetual bloomer among the singles we possess.

When many of these Roses are going out of flower (July or later) *R. lucida* opens its lovely fresh pink blossoms. These are borne profusely on established plants; they open flat, are over 3ins. across, and could hardly have a more effective setting than that provided by the copious and very glossy foliage. The flowering season may extend until autumn is approaching, when the

fruits become a bright red and the falling leaves develop generous shades of yellow and bronzy purple. This is quite an easy doer in any average soil, even in the woodland where its red-brown branches have a pleasing effect during winter. *R. hinda* makes a large bush, spreading by underground suckers. There are several varieties. For a warm, sunny spot *R. berberifolia* Hardii,

its yellow cistus-like flowers being blotched with crimson, can be recommended, but it is not in our experience a "good doer," as most of the others here mentioned are. It is, however, well worth a trial. "Hebe's Lip," said to be a form of *R. b. Hardii*, and bearing white flowers with a pectee edge in carmine, is tolerably easy tempered. *R. sericea* is one of the most distinct and desirable

of all wild Roses, its four-petalled flowers being arranged in the form of a Maltese cross. The very dark green foliage and red spines are also distinctly uncommon features. It is another of the May bloomers, and related to the curious *R. pteracantha* with its strange armature of spines
North Wales. A. T. J.

(To be continued.)

ZENOBIAS AND ALLIED GENERA

THE many ericaceous plants still commonly known to gardeners as species of *Andromeda* are now divided by botanists into no fewer than nine genera. These are known respectively as *Andromeda*, *Pieris*, *Lyonia*, *Leucothoe*, *Cassine*, *Cassiope*, *Zenobia* and *Enkianthus*.

Of these genera *Pieris* and *Zenobia* stand out "head and shoulders" above the rest as valuable garden plants. *Zenobia speciosa* is a hardy deciduous or sub-evergreen shrub with a rather thin habit of growth. The flowers, which are pure white, are produced in June and July on the terminals of the previous year's growth. The accompanying illustration will give an idea of their arrangement and beauty.

The variety *pulverulenta*, also illustrated, is very distinct and by some botanists considered a distinct species (*Z. pulverulenta*). It is really even more beautiful than the typical plant. The

picture shows some essential differences between the two plants, but *pulverulenta* is readily distinguished in the garden by its very glaucous foliage. The young shoots are also glaucous. Neither of these two interesting and beautiful shrubs is grown nearly as much as it should be. Both kinds may be raised from seed, but propagation under glass from cuttings of half-ripened wood is not difficult.

The genus *Pieris* is better known in gardens, *P. floribunda* being a fairly common, very hardy and exceedingly early-flowering species. The glossy ovate evergreen leaves are about 3ms. long, and the hanging pitcher-shaped flowers are borne in erect terminal panicles each consisting of several slender racemes. This is a slow-growing shrub, but it ultimately attains a height of 6ft. or so. At its best in March or April, it is not uncommon for some of the blossoms to expand in mid-winter. Gardeners often call it the Lily of the Valley shrub,

Pieris japonica is a larger and more rapid grower, which attains in favourable situations a height of about 10ft. It is, however, not nearly so hardy as *P. floribunda*, and the graceful pendent racemes are very liable to be damaged by frost. The western edge of woodland is a good place for it or a western exposure in the rhododendron dell should suit. This is a particularly beautiful shrub where it succeeds, being less formal in outline and more graceful in flower than *P. floribunda*. *Pieris formosa* is even more handsome than *P. japonica*. It makes a larger shrub, has finer foliage and much larger and handsomer flower panicles. Unfortunately, it is only really at home near the sea coast, though it grows outdoors at Kew. *Pieris taiwanensis*, which this year received an award of merit from the R.H.S., is closely related. This was illustrated in *THE GARDEN*, page 142. Soil which suits *Rhododendrons* will grow all the plants mentioned.



A SPRAY OF ZENOBIAS SPECIOSA VERA.



THE VERY DISTINCT SUB-SPECIES Z. S. PULVERULENTA.



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THIS (THE EIGHTY-SIXTH) VOLUME OF "THE GARDEN"

IS DEDICATED, BY PERMISSION, TO

LEONARD G. SUTTON

MR. LEONARD SUTTON, the present senior partner in the great Reading seed firm, is the youngest son of the late Mr. Martin Hope Sutton. Born in 1863, and thus in his sixtieth year, he was educated at Wellington College and the Royal Agricultural College, Cirencester. On his return from Cirencester to take up business with the firm of Sutton and Sons, which he entered in 1884, Mr. Sutton interested himself in agricultural work in connexion with Grasses and Clovers. In 1901 he was a member of the Departmental Committee appointed by the Government to report on the conditions under which agricultural seeds were then sold. "Mr. Leonard" ultimately relinquished this side of the agricultural business to his nephew, Mr. Martin H. F. Sutton, the son of his eldest brother.

As a young man Mr. Sutton resided for some time in the seed-growing districts of Germany. On his return he devoted himself enthusiastically to the culture of flowers from seed. If one of Messrs. Sutton's catalogues of date prior to 1883 is compared with that of the present year, it shews the marvellous technical developments that have been made in the illustration of flowers, whether from drawings or photographs.

In 1890 Mr. Sutton paid a long visit to the United States and Canada, and stayed in the seed-growing districts of California, where seed-growing was then in its infancy. The predictions he then made as to the development of the industry have been abundantly fulfilled.

Mr. Sutton has been closely identified with the development of the Agricultural and Horticultural Departments of University College, Reading, and has for many years been on the Council of the institution. In 1910 he helped to organise a deputation—consisting of himself, the Principal, the Director of the Agricultural Department and the Professor of Botany, Professor (now Sir Frederick) Keeble—to those Universities of Canada and the United States of America in which horticulture and agriculture formed an important part of the curriculum. It is largely due to the knowledge acquired there and the consequent report on the subject that such important developments have taken place in our own higher education in this important branch of science.

Mr. Sutton has been a member of the Corporation of Reading for many years, and was Mayor for two successive years during the war. His labours during those sad and trying times, for Red Cross, for the War Pensions Committee and in other directions, will always endear him to the townfolk of Reading. He is at the present time Chairman of the Reading Education Committee and of the Berkshire Territorial Army Association. He is also a representative of the diocese of Oxford on the National Assembly of the Church of England.

It will be seen, therefore, that Mr. Sutton's activities are by no means confined to the great business of which he is senior partner. To be the head of a business so well known, admirably organised and highly respected as that of Sutton and Sons is in itself a distinction of the first rank. "Suttons" is, rightly considered, more than a business—it is an institution. It is known and respected throughout the English-speaking world and in all foreign countries of any importance. Its best testimonial is its world-wide trade!

EUROPEAN MARTAGON LILIES

WHEN I was a boy, I found once, on the slopes of the Jura, some disagreeable-smelling dark flowers, banging from a long spike and giving altogether a candelabra-like effect which astonished me. My schoolmaster said it was the Martagon Lily, but I could hardly believe that a Lily—I only knew the Madonna Lily, which my father had in his garden—could have such an appearance—and such an odour. The master, none the less, was right and I was wrong.

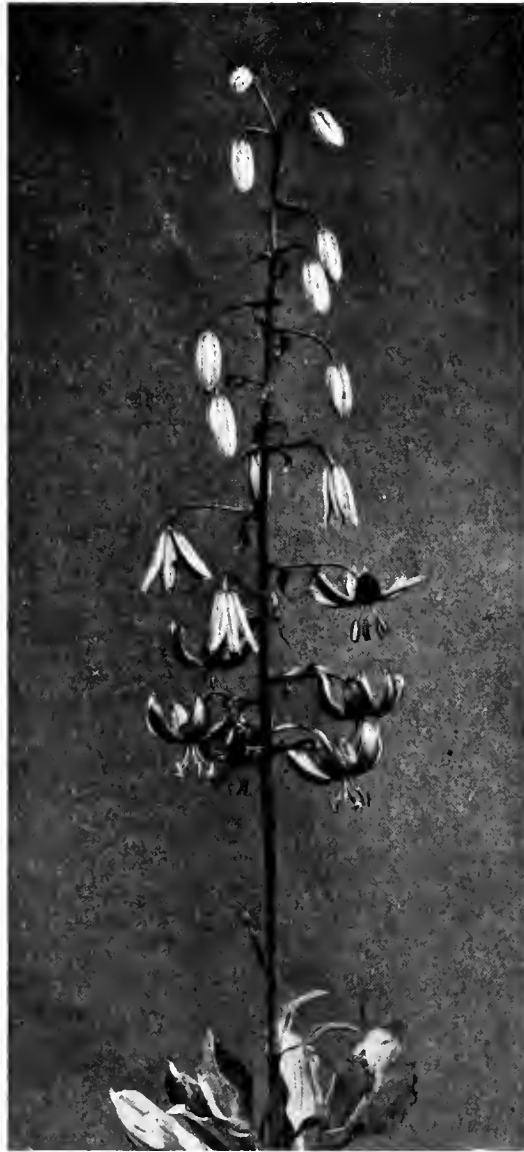
Later on, I found in my mountain rambles several other Lilies, all belonging to the same type as the Martagon. Of these, some of them being treasures, I will write a little for the benefit of readers of my dear old GARDEN.

First, I will recount a curious coincidence, proving the possibility of auto-suggestion to an enthusiastic botanist. I was once saying to one of my sons that I had never in my life found the white form of the Martagon Lily and that I would immensely like to find it once. This I said when I was climbing on a green slope near Bourg-St.-Pierre in the Valais just below our alpine garden "The Linnæa." Some two or three minutes afterwards only, we found three superb plants of it, the flowers showing above the herbage! I have never found it since that occasion—it was in 1890. The white form is very rare in Switzerland and is often considered as a garden variety. Of course, it was not so luxuriant as those of which you have published photographs (pages 494 and 572), grown in an Irish garden and at Kendal by the Hon. Mrs. Cropper. I know that there are, in English gardens, other clumps which are equally fine. I could never get them, however, and I fear I shall die before possessing the pure white form. The late Leichtlin introduced some forty years ago from the Montenegro mountains a form of Martagon with dark brown and shining flowers, which is called *dalmaticum* by Visiani and which is seldom seen in gardens now.

At the end of June, 1904, I had the brilliant sight of an immense field of *Lilium carnolicum*, the beautiful red Martagon of the South Austrian Alps. I was climbing the Monte Simmauo (where war has since brought distress and ruin), and after having traversed fields of sky blue *Lithospermum graminifolium* mixed with *Linum viscosum* and *Serapias longipetala*, I came to the top, where an ideal view shewed us to be near the boundary of Austria and the gold-coloured Dolomites. Then, suddenly, we came upon a pasture as red as the fields of Poppies in England. What is it? said I to my guide. He did not know, but when we came to it it proved to be a field of *Lilium carnolicum*. It grows in a rich meadow with a north aspect, the soil being deep in humus.

Last year, at the end of May and beginning of June, I was rambling in the Maritime Alps and found, between the stones of the Var Valley, nice patches of *Lilium pomponium*, that marvellous red Martagon which is the brightest coloured of all Lilies, brilliant as are *Lilium chalcedonicum* and *L. tenuifolium*. I had never before seen *Lilium pomponium* in its wild state. I had got

it, of course, and cultivated it fairly well, but the sight of these masses of crimson spikes adorning the dark, stony and barren slopes and overhanging the railroad seemed to me to be a picture of the greatest beauty. The graceful, slender stalk



A SPIKE OF *LILIAM MARTAGON DALMATICUM*.

(30 to 50 centimetres high) bears three to five Martagon flowers of the deepest vermilion—almost as deep as *L. chalcedonicum*, which it so greatly resembles—glowing under the powerful and hot sunlight of the Maritime Alps. To my great surprise, the bulbs were sunk in rocky crevices or among broken stones, and very hard to get. We could get nothing but the young ones, as the oldest were too deep in the rocks, seldom in any soil—and how difficult the flowers are to dry for the herbarium!

I returned last summer in the month of July, hoping that I could take some of these bulbs from the ground when at rest. But alas! it is impracticable in such stony ground to go deep enough to secure them. They are impossible to reach. Later on, however, in the Tinée Valley, and also in the Roya Valley, I came upon them in grassy slopes, where it is easier to collect them. In that

habitat, always on very steep slopes in half shade, they grow in light soil, but they are very deep there too. Sometimes the understalk is horizontal, like a stolon: in this case it makes from three to six little bulbs one after another along the stalk, and each of these bulbs gives a little plant. It is not quite the same method of increase that we find with some North American Lilies (see in Dr. Wallace's "Notes of Lilies," pages 110-111), for they are, I think, bulbils of the same nature as those we find on *Lilium bulbiferum* and *L. tigrinum*; only that the bulbils, instead of being along the stalk are, in this case, in the soil and only on the under part of the stalk.

Lilium pomponium is the glory of the vegetation of the Maritime Alps. It seems to me to be not so rare as is commonly supposed, and I know more than twelve stations in the country. Above Mentone it covers some extensive meadows, and in the Vallon de Cairns a friend of mine found fields of it. It is, of course, the Western form of *Lilium carnolicum* and the famous and still more violently coloured *Lilium chalcedonicum* is the Eastern form of both. The first goes from North Italy to Macedonia on the Monte Orbeli, and *chalcedonicum* is the Grecian species. There is an intermediate one called *Lilium Heldreichii* by Freyn, which grows in the Attic Mountains.

At last Chelsea Show Messrs. Wallace exhibited a lot of *Lilium tenuifolium* from Siberia, which was one of the most brilliant things in a fine collection. It is a dwarf plant—I think the dwarfest of all Lilies—and has very narrow leaves; the flowers are of the deepest imaginable crimson. I grew it forty years ago, but lost it more than twenty years ago, as it is difficult to keep here. The three others are easier here, and, some fifteen years ago, *Lilium chalcedonicum* adorned numerous gardens in our Jura country. Now it is very seldom seen.

In the Pyrenées *Lilium Martagon* is common, but here and there, especially on the Spanish side, one may find, in very shady places, the Yellow Martagon, *Lilium pyrenaicum*. It is distinguished from the Common Martagon by its leaves being distributed along the stalk—not in whorls as they are in the Common Martagon—and by its yellow flowers with red anthers. The plant has been sent out in such quantities by the plant merchants there that it is now rare in the High Pyrenées district. You can see it in some inaccessible rock walls, near Bagnères-de-Bigorre, always facing north, and in certain damp woods. Its culture is very easy; it likes just such a shady corner in the garden as does the Martagon.

Florence, Geneva.

HENRY CORREVOY.

SPRAY FLUIDS AND SPRAYING

Spray early, spray thoroughly, but spray with forethought and judgment.

THERE are many ways in which spraying may be rendered ineffective and useless, and there are circumstances that may render spraying unnecessary and therefore extravagant, the whole pith of the subject being that spraying is not a matter of conforming to charts, programmes and cut and dried rules, but must be made a matter of careful study and practical judgment.

During the early part of the dormant winter period the spraying with caustic wash of old trees that are choked with lichens and algae is an urgent necessity, but that does not mean that because it is December or January we should spray healthy,

clean young trees with caustic soda, nor even that it must be annually used on old trees. It is probable that when a tree has become badly smothered with moss or slime, one season's spraying will be insufficient thoroughly to cleanse the whole of its trunk and limbs, and a second year's spraying is then necessary. When, however, the tree is cleaned, caustic soda has fulfilled its mission, and its use on clean trees is superfluous. It is erroneous to suppose that the soda kills the eggs of insect pests. What it does do is to burn away the moss and slime that afford harbour in which the eggs may pass the winter. There are few, if any, sprays which may be safely used on living trees that will kill the eggs of destructive insects. To combat the insect pests we must either use sprays that will kill by contact or that will make the feeding ground of the pests so obnoxious that the pests are held at bay. Therefore most insecticides are for spring, summer or autumn use, the last named being used with the object of preventing female moths and flies from laying their eggs where they would be detrimental.

Caustic soda is by no means either pleasant or easy to use. Both the dry powder and the fluid will burn the skin if allowed to come in direct contact with it, and the operator should have his face thickly smeared with vaseline, and should wear leather gloves. Old clothes or overalls are an absolute necessity, and one should take care to work with one's back to the wind, but, of course, a very windy day should not, in any case, be chosen for spraying.

Burgundy mixture, which is a combination of copper sulphate and soda, is effective as a fungicide as well as an eradicator of lichen and algae, and either this or the familiar and well tried Bordeaux mixture should be used during the leafless period, where such fungoid pests as apple or pear scab, brown rot, and even canker have taken a hold. For such pests it is highly probable that spraying will be necessary for two or even three successive seasons, but the obvious deciding factor should be whether the trees and their crops the season after spraying are completely or only partially freed from the pest. The task of dealing with aphides is not only a summer operation, but an all the year round task. Millions of eggs nestle in the cracks and chinks of trees, bushes and plants, and if by burning away their protective lichen, etc., we can shitt the eggs, that is an accomplishment worth the effort.

In January, or at the latest February, lime-sulphur may be used, and relied upon materially to reduce the number of aphides that hatch out. Exactly what the action of lime-sulphur is may be a matter of conjecture rather than certainty, but it is very probable that by sealing over the eggs, necessary air is excluded, or that the air which does enter the egg is impregnated with sulphurous vapour that renders the life-germ within too weak to hatch out. A great deal of confusion of ideas exists in regard to lime-sulphur spray, probably due to the frequency with which sulphur is recommended as an antidote to mildew on Roses, Vines, etc. I have heard a traveller for a firm of horticultural sundries-men announce with ready confidence that lime-sulphur will do as much as any spray toward ridding trees of fungoid diseases. Used in spring it may be and undoubtedly is very effective in this direction, but I have not seen anything to justify placing lime-sulphur in the place of Bordeaux mixture for winter use. It has not the power of the latter, but for that very reason it may be used during the leafy period when Bordeaux would ruin the foliage. One great advantage about using lime sulphur as a deterrent to the hatching of aphides quite early in the New Year is that when trees are thus treated birds do not damage the fruit buds. That is a phase of spraying which is not

frequently dealt with, but it means a great deal to the owners of fruit trees, especially in districts surrounded by woods and fields. With these two main facts regarding lime-sulphur in view—firstly its efficacy against aphides, and secondly its preservation of fruit buds from damage by birds—there would seem to be a very good ground for advocating that this spray should be used regularly and liberally, even to the extent of spraying healthy as well as unhealthy trees and also bush fruits; but, to get the full benefits, the application should be quite early in the New Year, not held over until mid-spring as is so frequently advised. We have quite other objects in view and other pests and

diseases to combat at that season of the year. So far as lime-sulphur is concerned it may be applied to small trees and bushes by means of a small hand sprayer or a good fine-nozzled syringe, but caustic washes call into requisition well constructed spraying machines fitted with long lances, enabling the operator to stand a good distance from the jet. Look well to the spraying machines, and see that pumps, washers and nozzles are all in good order. Never put the sprayer away after using caustic wash without thoroughly cleansing the machine. Carelessness in this detail may soon cause the wastage of shillings or pounds in repairs.

A. J. MACSELF.

SOME SHRUBS OF A WINTER GARDEN

THOUGH my enthusiasm for the winter garden is not warm, being largely measured by the degrees of the thermometer, one is grateful to those rare occasions which afford a ray of bright colour, a whiff of fragrance or some brave promise vouchsafed by a breaking bud.

It is, after all, rather a survival of autumn than a note of winter that induces me to open this subject. Seen in the low sun of a December day, what is finer than a good specimen of *Berberis vulgaris*? With its pendent bunches of fruit fired to a dazzling scarlet by a touch of frost, this fine old Barberry is a spectacle to be remembered. About 8ft high and nearly as much through, the gracefully hung branches are laden with their brilliant crop, a crop that is usually untouched by birds, save in times of great severity, and one that retains its splendour of colouring from the time the last golden leaves are shed until signs of the lengthening day are unmistakable in the western sky. We cannot afford to overlook the

merits of this none too familiar old shrub, for they are unique. Here, at any rate, it is a winter-fruited species without rival, and the type is still, I think, superior to its varieties.

Among the earlier *Daphnes*, *D. Mezereum* is a splendid thing where it does well, its rich purple or the ivory white of the variety *alba* being unspoiled by the worst the weather can do; but although the cottagers hard-by can grow this species to perfection in the old soil of their little plots, there is something about our woodland loam that it does not like, repeated plantings languishing without an effort. However, there is some consolation in the fact that we can satisfy *D. Bлагayana*, and as I write (December 12) its big buds are bulging with promise. *Daphne pontica* is one of the good old things, and its lily-like fragrance, so generously disseminated in the garden air of the early year, is alone enough to claim for it a place. Though much like *D. Laureola* (*Spurge Laurel*), the tubular flowers of *pontica* are a better yellow, their perfume can



LONG AND ELEGANT BRONZY LEAVES AND CRIMSON FRUITS OF COTONEASTER SALICIFOLIA

easily rival that of *D. Blagayana*, or the much later *D. Cneorum*, and the shrub is one that will do in a shady place or under the drip of trees. *D. pontica* usually flowers after the Spurge Laurel, but it is often in full bloom by mid-February. To-day the peculiar green of its foliage is very attractive against the prevailing brown of the woodland floor.

Berberis Aquifolium (*Mahonia*) can always be relied upon to give colour when the first Snowdrops are appearing and the buds are already breaking; but not many forms of this species make me very enthusiastic. Their flowers are welcome enough in mid-winter, but they are produced in a bunchy manner, the clusters seem to lack form and appear at a time when the foliage is apt to look shabby and mean. Of *B. nepalensis* I cannot speak from experience, for the specimen we have has not yet overlooked the root disturbance to which it was subjected three years ago, an interference to which all members of this clan seem peculiarly sensitive. *B. Bealei*, however, made an exceptionally good-tempered recovery after planting, and is now a fine bush some 4ft. or more in height, growing vigorously and flowering regularly every January. This species is copiously furnished with very large, horny leaves of a pleasing shade of green, and the many blossoms, bright yellow and scented like Lily of the Valley, are arranged in a bold and elegant cockade at the tip of every leading branch. Though somewhat susceptible to severe frost in the bud stage, these blossoms appear to be perfectly hardy, and are followed by plum-coloured fruits which are soon discovered by the blackbirds.

Beneath deciduous trees, thinly disposed, our *Rhododendrons* usually escape their worst enemy—white frost—and also derive considerable shelter from wind. Among them *R. nobleanum* in rose-crimson is one of the first to flower, but it does not often precede the excellent *R. præcox*, of which a dozen plants or so form an irregular group on the woodland bank. The delicately tinted flowers of this charming hybrid are extraordinarily hardy, and the rich, glossy, myrtle-green foliage singularly attractive. *R. Silberhad*, which I first saw one early February day in Mr. E. C. Buxton's beautiful garden, where it grows to perfection, is also one of the forerunners of its race, its buds beginning to swell soon after Christmas. The medium-sized trusses of this splendid variety are produced with great liberality, the pretty, crimped blossoms being a lovely silver pink, and the bushes are in bloom for many weeks. This season *R. Silberhad* has been rather marred by being thrown out of its reckoning early in the autumn of last year, when many flowers opened in response to the rain which followed that baking summer. The bushes now, however, have sufficiently settled down to promise a fair shew of colour presently, closely to be followed by the superb crimson-scarlet *R. Jacksoni*, which is still one of the most charming and reliable of the early ones, the buds often shewing their ruby tips in February here (North Wales).

Most of the conifers, great and small, are seen to fullest advantage in winter, and that not only because they now have the field so much more to themselves. I can do no more here, however,

than refer to one little grouping which occupies an elevated position on grass above some rock walls. It consists only of three shrubs, *Juniperus prostrata* spreading over a lichened boulder, by which stands the dwarf and golden form of the Scots Pine, while, a little detached from these is a small upright specimen of the common *Juniper* of the Scottish hills. The rich green, the gold and the blue-grey of this trio are never quite so good as they are at this season, and the informality

hedgerow and hillside in the locality, other berrying plants should carry their crop unusually far.

Viburnum rhytidophyllum is yet another shrub that will not escape attention in a winter garden, its large, deeply veined, velvety leafage being exceedingly handsome and weather-proof. Though often despised because it has been overdone and is so frequently ill-treated, the Common Portugal Laurel (*Prunus lusitanica*) is a goodly thing



MOST WELCOME IN WINTER DAYS, THE MEZEREON, *DAPHNE MEZEREUM*.

of the group gives some character to a portion of a turfed terrace of very poor soil which might otherwise have appeared flat and uninteresting. As good fortune would have it, some plants of *Gentiana acaulis*, which happen to be by the little Scots Pine, have now several flowers fully expanded, the deep blue and the gold being a particularly telling contrast—as witness the Gorse and wild Hyacinths on the hillsides in May.

It is in winter that one can perhaps most fully appreciate the glossy, bronzy green and ruddy stems of *Cotoneaster rugosa* var. *Henryana* and *C. salicifolia*, their long and elegant bronzy leaves seeming too delicate for so rough a world, are the more valued in consequence; but of the winter-fruited *Cotoneasters* none can equal the evergreen *C. pannosa*. The grey-green, downy foliage, ruddy stems and long, gracefully arched, whip-like branches of this fine species are admirable at all seasons. It is, however, from late autumn throughout the winter when those branches are copiously hung with clusters of brilliant crimson truss, that *C. pannosa* excels as one of the handsomest species of its attractive race. Only in the severest weather do birds touch the berries in this garden, and that much may also be said of those of *C. Francheti*, also an evergreen with a foliage much like that of the foregoing; but having compared many specimens of these two shrubs, there is no question as to which is the more beautiful, *C. Francheti* appearing angular and coarse beside the refinement and elegance of *C. pannosa*. As there is such an extraordinary abundance of Holly berries this season on every

to look upon at this season, affording a shade of deep green which is uncommon and which seems to blend peculiarly well with the purple stems. Left to grow naturally the Portugal Laurel is of no mean worth as a flowering tree. The most cheerful of the Broom family to-day is the hardy *Genista monspessulana*, which might easily be mistaken for *Cytisus racemosus* (*Genista fragrans*). *G. monspessulana* (sometimes listed as *G. candelans*) is almost an all the year round blossomer, and even during the short winter period when there will be no more than a sprinkling of blossoms, it takes advantage of every mild interlude, putting out fresh shoots and regarnishing its soft, delightful green in readiness for the flood of yellow with which it will be covered in spring. The afore-mentioned *G. fragrans*, planted out on a warm shaly bank some two or three years ago, has thus far proved hardy enough to withstand considerable frost. The trouble with this pretty thing, however, is that it mistakes a few mild winter days for the coming of spring and immediately hastens to put forth its delicate racemes of flower-buds, which are consequently liable to be nipped. Still, the vitality and optimism of this plant are so abounding that it takes little heed of these temporary checks.

The Caucasian form of *G. tinctoria*, which grows to about 4ft., is another member of this race which is apt to misunderstand our climate. We have, for example, a specimen of this Broom now bearing a number of fine heads of bloom, which, with average weather, will be in flower at Christmas and after.

J. W.

NOTES ON TRAPPING VERMIN

A few hints on simple and inexpensive means of destroying pests which injure and devour crops.

NO garden is free from the unwelcome attention of such pests as rats, mice, moles and voles, and there are often enquiries in the gardening press for information as to their destruction. There is nothing surprising in this when one considers the knowledge and skill required to capture the more cunning of them. The successful trapper must be a keen observer of the habits of wild nature, and must possess an intimate knowledge of their ways. A few hints on simple and certain methods may be welcome to many who have suffered loss and damage by their ravages. To most amateurs the capture of the mole presents the greatest difficulty, and without skilled help or advice it is certainly difficult to trap it in the loose soil of a garden. The common iron trap is generally used, and preference should be given to one made of wrought-iron. The cast-iron variety is too clumsy. The mole usually has its retreat in a dry hedge-bank, shrubbery or among the roots of large trees, and between these places and its workings or feeding ground the main run must be sought for. For this nothing is better than a small pointed iron rod with a good handle—an enlarged iron skewer, in fact. By pushing this into the ground at very short intervals the run will be found by the point dropping in easily. If the run is under a grass path and is an old one, a slight depression will be seen above it. The main runs are used for years and, once found, should be remembered. A neat hole should be dug with a trowel just large enough to take the trap. It must be fitted centrally so that the mole does not come in contact with the trap until it reaches the trigger. Place two thin pieces of closely cropped turf, grass side downwards, on the jaws of the trap and cover all with grass or leaves to exclude light.

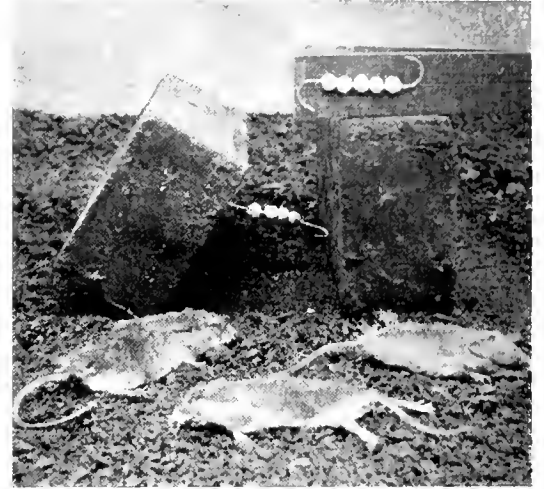
Another good trap, not generally known, is the pitfall. It may be used in the main runs with great advantage, and is about the only one of much use in soft earth. Deep earthenware pickle jars or tins may be used. I prefer deep, narrow biscuit tins if they are to be had. The receptacle used should be sunk until its upper edge is exactly on a level with the bottom of the run, and this must be made quite smooth to the edge. Pieces of slate or tile are now laid on the sides, leaving an

aperture not less than the width of the run. The sides of the run must be built up with brick or pieces of wood and the whole covered with a slate or flat stone to keep out all light. The pitfall is now complete and may be examined once a day. Do not place this trap near fresh workings or the mole will fill it with earth pushed along the run. When I took charge of these gardens several years ago the place was infested with moles. By a free use of this trap in the main runs their numbers were quickly reduced, and in two or three years they disappeared altogether, and the main runs went out of use and gradually filled up. This proves the trap to be well worth the trouble taken in making it. It is a pity one has to destroy the creature, for in its proper sphere it does an immense amount of good by destroying vast numbers of injurious larvæ underground. There are some who would like to see it banished from their gardens without destroying it, and I would advise them to open main runs and workings and place a handful of Alphon or Vaporite in them and replace the soil. This will be found a good preventive, and must be repeated whenever the mole makes a fresh attempt.

The long-tailed field mouse (*Mus sylvaticus*) is a serious pest in most gardens, working sad havoc with sprouting Beans and Peas, eating ripe Grapes in the vinery and digging up Crocus bulbs. Nothing is safe from its ravages, up or down, for it can climb like a squirrel and dig well too. For its destruction I would like to make more widely known a trap which is at once simple, certain and humane. To make this trap two bricks and a piece of small, stiff wire are required. I use 10-gauge galvanised wire, which does well. Cut off a piece of wire 4½ ins. in length and bend the ends into open curves like an S with a long, straight shank, making it when finished exactly 3 ins. in length. Now take some peas which have been soaked in water for one or two days or, better still, sprouted in damp moss, and thread four or five on to the straight shank of the wire. If the ends are sharp and nicely curved, the peas will go

on without breaking. This is a deadly bait for these mice, and in autumn and winter will often last a fortnight or more without being renewed. Now place one brick on edge and make the soil in front firm and level, then lay the other brick in front of and fitting close up to the upright one, raise it on its edge away from the upright, and place one end of the baited wire in the centre and 1½ ins. from its upper edge and the other end ½ in. from the lower edge of the upright brick. This is the point of lightest balance if the wire is the correct length, and the lightest pull on the

bait will bring it down. The larger slugs are often victims. The bricks used must be fairly smooth ones. If set against a wall only one brick is used, but a smooth place must be selected. Another excellent trap is the break-back, and the pattern with the small trigger should be chosen, not that which has the front half cut through to form a trigger. These traps can be used with or without bait. Place the trigger end against a wall and



THE BRICK TRAP AND ITS VICTIMS.

place a tile or length of board on either side to form a V with a space between the ends and the wall to allow the mice to pass on to the trap. When rows of Beans or Peas are attacked use a trap in the same way at each end, the V pointing inwards and the trigger end of the trap across the small space left at the apex. No bait is needed and the marauders are soon caught. To prevent the loss of the traps I drill a small hole near one of the rear corners and secure to a small stake with string.

The field vole or short-tailed field mouse (*Microtus agrestis*) is a common pest, and in some seasons will attack growing crops of Beet and Carrots, and work havoc among Cauliflowers and winter Broccoli when lifted and stored in sheds. It will eat almost anything in the way of fruit, nuts, seeds, grass, and root and stem vegetables. In grass land they are easily caught in pitfalls dug across their runs. Holes about 18 ins. or so in depth, with the bottoms much wider than the tops, are made, as the voles are unable to climb up the inward sloping sides. When growing crops are attacked, place boards on edge on that side of the plot where they enter. Short lengths are best, with 1½ in. spaces between the ends and a break-back trap set with its trigger across the opening. Some can be driven into the traps by walking slowly through the crops towards them. Examine the traps often through the day and reset where necessary and their ravages will soon cease. If the garden is near a stream or pond, the water vole is often very destructive, especially in the winter. These may be taken in the same way, but the stronger break-back made for the rat is necessary. The wire cage traps baited with Apples are also good. A small-bore shot-gun is useful for shooting them at the water's edge.

Of that offensive and voracious pest, the rat, I much regret to say there is no simple way of taking it. It is far too cunning for that and is about the worst four-footed pest we have, doing damage of every sort—nothing coming amiss to its appetite. It takes toll of everything, from ducks to green peas, and acts as



WHERE TO SET A BREAK-BACK TRAP.

scavenger besides. I am no advocate of steel traps and poisons on account of their cruelty and danger to friend and foe alike, but against such a cunning and destructive pest as the rat one feels entitled to use any and every means, whether fair or foul, to destroy it. A good substitute for poison is to feed with meal in a dry place for a few nights and, when it is taken freely, mix a quantity of plaster of Paris with the meal and place saucers of water near. It is well to wear leather gloves when setting any kind of trap, as the rat's sense of smell is very keen. Wire traps

should have the bottom wires lightly covered with soil, as the rat will rarely tread on bare wires or metal of any kind. A plank leant against a wall with two steel traps, jaws pointing outwards, is often successful. When rats change their quarters they generally do it on moonlight nights, and traps should be freely set on these nights, as rats are more easily caught on strange ground. A good sharp terrier is invaluable, and his work may be assisted by a gun and ferrets.

Lingfield.

H. C. Wood.

(To be continued.)

Weeping Mulberry needs careful training until an adequate length of trunk is obtained.—A R

THE "HUNTINGDON" WILLOW.

IN "Answers to Correspondents," issue December 10, you say you have not heard of "Huntingdon" Willows. I have been familiar with this name for fifty years. Many nurserymen catalogue *Salix alba* under this name, Messrs. Thomas Perkins and Son, Limited, Northampton, and Messrs. Benjamin Reid and Co., Aberdeen, are two among them.—CHAS. A. BRUNNING.

IN your reply to your correspondent "W. W. T.," (THE GARDEN, December 16), *re* cricket-bat Willow, you state there must be some confusion in the name Huntingdon Willow. We have grown the Huntingdon Willow (*Salix alba*) for a number of years. It is one of the best growers we have.—K. AND J. HILL, *Willington*.

Salix alba is, of course, a well known tree, but as far as our experience goes the English name is White Willow. The true Cricket-bat Willow, *S. coerulea*, is by some botanists considered only a form of the White Willow, but Bean ("Trees and Shrubs") appears to agree with Henry that it is probably a hybrid between *S. alba* and *S. fragilis*. However that may be, the timber of *Salix alba* is useful enough, though not first-rate for cricket-bats.—Ed.]

CORRESPONDENCE

STRAWBERRIES AND ASPARAGUS.

DESPITE the long and severe drought of last summer, we managed here to get our new Strawberry-bed, from runners laid into small pots, finished the first week of August. Our date in average seasons has been the last week of July. The runners are always taken from a small separate bed of one year old maiden plants, *i.e.*, which have not been allowed to fruit. This makes all the difference in the world to the strength of the ensuing plants. They are set out only 1ft. apart each way, which gives room enough for the first year's fruiting. If we keep them a second year, we cut out every other plant with a sharp spade. But if labour and fresh ground are available, we grow all our Strawberries as annuals only: the crop is heavy enough and the quality very much better. It is a strange fact that well rooted plants are unobtainable from the trade until well on in August, and sometimes not before September. I suspect that the maiden plant system, which gives runners much earlier than from fruiting stools, is not generally in use. In vain do advertisements tell me that Strawberries supplied in September or October "fruit well the first year." They don't and can't. It was, I think, my very competent friend Mr. J. D. Pearson who replied to a former note of mine that the objection to such early planting lies in the necessity of watering. But who can say when rain will come in our climate and when it won't? Here, our plantation was well settled in by heavy rains immediately after the making, and now we have had scarcely a drop for the last two months. I have never had reason to repent of my practice of planting as early as possible and trusting to luck for rain. Asparagus surely tries to tell us by its great resentment of root disturbance that transplanting violates its nature and the rational way is to grow it from seed. It is difficult to understand why and when transplantation came into fashion otherwise than to sell plants. Here we always sow seed where it is to remain unmoved. The gain of time by transplanting is only one year, with the large *per contra* of outlay on bought plants and loss of vigour and durability.—G. H. ENGLEHEART, *near Salisbury*.

tastes so like stewed Apples that I think a blind-folded man would never find out the difference!—E. H. WOODALL.

THE WEEPING WHITE MULBERRY.

I WAS very interested in the article on Weeping Trees (THE GARDEN for November 18, page 579), in which reference is made to the Weeping White



THE WEEPING MULBERRY, MORUS ALBA PENDULA.

Mulberry, *Morus alba pendula*. I enclose a picture of a young tree at Lingfield, Surrey, which shews, I think, its value as a lawn tree. It is, I think, a little strange that there should be so many varieties of the White (Silkworm) Mulberry in cultivation, whereas the Common Mulberry (*M. nigra*) appears not to have varied from the type despite its long history in cultivation. The

CHRYSANTHEMUM

TOKIO.

ONE would have thought that Mr. E. H. Woodall had been a reader of THE GARDEN long enough to know that the space allotted in it for show reports has for many years been restricted to bare necessity. To discuss or even to criticise the Paris Show from an artistic point of view would require far more time and space than even the most indulgent editor could be expected to permit under existing circumstances. It is true we might learn something from French methods of arrangement. I have preached that for a generation at least, but it is equally certain that our English growers and exhibitors can teach the French something too. If Mr. Woodall had been at Le Mans and seen Mr. Jones' exhibit there last year, or if he had been to the Paris Show in 1911 and seen Mr. Thomas Stevenson's grand display when the show was held on the Cours-la-

Reine, he would have had ocular demonstration of the truth of that. To take individual groups, there is very little as a rule to learn from the ordinary French exhibit. They are often too low, too flat and painfully monotonous in their uniformity. The great charm of a French Chrysanthemum show is the total absence of long tables, in place of which is the design of the whole

THE LOQUAT.

I SEE that a gardening friend in New Zealand writes saying that there they do not eat the Japanese Medlar or Loquat when cooked! There is no accounting for tastes we all know, but this is especially surprising, for the raw fruit is rather acid and has very large seeds in it, so much so that there seems very little flesh for so much seed. But when stewed, the big seeds taken out and some sugar added, it is a welcome addition to the table in spring, coming in as it does before the Cherry and Strawberry. Properly cooked it

show, in which the various groups are tastefully filled into a kind of artistic framework. Exceptionally, like that of Paul Féron this year, we get a glimpse of originality, but surely some of the great stretches of low, flat groups such as we saw last October in the Palmarium need not be imitated in England. The covering up of the pots, the hiding of the receptacles in which the cut blooms are placed, the green turf edgings to the groups and the frequent laying down of grass lawns on which to display their gains are all of some decorative value to the French exhibitors, and might be usefully introduced here. But the Palmarium of the Jardin d'Acclimatation is not by any means an ideal site.

My chief concern is to congratulate Mr. Woodall on his having discovered Tokio, the Chrysanthemum I mean, of course, not the place, which is properly called Tokyo. It is not apparent whether he first saw it this year or last, but it is evident that although he is resident in France, Mr. Woodall has not had much experience of the Paris Autumn Show. As an exhibition flower Tokio is absolutely unknown in this country, and it is not difficult to say why. These thin, tubular, stiff-petalled Japs of the hedgehog type have the colour inside, and only shew that of the reverse. There has been quite a number of them raised in France from the days of Simon Delaux, if not before, but they have never appealed to British growers. They are useless in the cut bloom classes, and, to-day, trained specimen plants are no longer grown here for show as of yore. In spite of that I have always regarded Tokio as one of the most telling varieties for specimen plants. To my knowledge it is one of the oldest varieties in cultivation—it is not a modern one as Mr. Woodall might lead his readers to suppose. Tokio has been shown in Paris for sixteen years at least, so that by no effort of the imagination can it be described as a novelty. I saw it for the first time at the Paris Show of 1905, and referred to it in my report for the *Gardener's Magazine* at the time. Two years later Vilmorin's group was staged in the corridor which linked up the two large greenhouses on the Cours-la-Reine, previously known as the Palace of Horticulture in the great Universal Paris Exhibition of 1900. This is what I wrote of it in my report after describing the Vilmorin exhibit in the *Gardener's Magazine* for November 23, 1907: "In the middle of this lawn was an immense trained specimen of Tokio, a pale pink variety of Japanese, peculiarly suited for this kind of culture. The plant must have been not less than 8ft. or 9ft. in diameter, and bore 7, 8 fully expanded blooms." A picture of that group was given in the *Gardener's Magazine* for November 23rd, 1907; in the *American Florist* for the 30th of the same month; and in *Horticulture*, of Boston, U.S.A., for the same date, shewing Tokio as a prominent plant in the Vilmorin exhibit. We certainly did not see Tokio in anything like that form at the recent Paris Autumn Show.—C. HARMAN PAYNE.

We should not ourselves describe a variety of Chrysanthemum sixteen years old as "one of the oldest in cultivation" when we remember that such old stagers as George Glemny and Mrs. Ruddle are still grown. [Ed.]

THE TWELVE BEST SHRUBS.

I ENCLOSE two lists each of a dozen shrubs which have grown in my garden for the last ten years and are quite hardy, and may be of interest to readers in the North of Scotland. My garden is in Glendevon, Perthshire, on the Obil Hills, about 700ft. above sea-level, and shrubs flower fully a fortnight later than those near the sea, such as Edinburgh Botanic Gardens. I have not included Rhododendrons and Azaleas,

which I may say do well with me. The soil is rather light, with a little peat and very stony. Being near the hills we get a good deal of moisture even in a dry summer, and all varieties of conifers grow well, also the Himalayan Gentians-Farreri and sino-ornata, and the different species of Himalayan Meconopsis. List 1.—*Ribes sanguineum atrosanguineum*, *Forsythia suspensa*, *Berberis stenophylla*, *Spiræa arguta multiflora*, *Dentzia crenata magnifica*, *Osmanthus Delavayi*, *Lilac Mme. Lemoine*, *Rubus deliciosus*, *Philadelphus Virginal*, *Viburnum plicatum* (on wall), *Viburnum Carlesii* and *Hypericum patulum Henryi*. List 2.—*Cydonia Maulei atrosanguinea*, *Cytisus precox*, *Hydrangea paniculata grandiflora*, *Potentilla Farreri*, *Spiræa Veitchii*, *Prunus triloba fl. pl.*, *Escallonia Philippiana*, *Cistus laurifolius*, *Genista virgata*, *Weigela Eva Rathke*, *Cotoneaster multiflora* and *Andromeda floribunda*.—A. H.

A USEFUL TRAILING CAMPANULA.

IN "A Selection of Fuchsias," which you published in *THE GARDEN* dated December 2, I notice an error in the name of one of the varieties mentioned, probably due to my bad writing. "Pink Paul" should be "Pink Pearl," and although the mistake is not of great importance, perhaps you will insert a note correcting it in a forthcoming issue. I should like to draw attention to a very beautiful little *Campanula* called *haylogensis*. This variety is of delicate growth and trailing habit, while from July onwards until late autumn it bears pretty violet blue flowers in great profusion which, though small, are very effective for the greenhouse. *Campanula haylogensis* is offered in the hardy plant catalogue of Messrs. John Waterer, Sons and Crisp, and,

while it is probably at its best on a rockery, I would strongly recommend anyone who requires a plant for the front of a greenhouse stage to give it a trial. The illustration of the flowers and fruit of *Fuchsia procumbens* on page 607 is very interesting, and I hope you will see your way to publish illustrations of different types of the *Fuchsia* family from time to time.—CECIL M. BAILEY.

THE SCOTCH MARIGOLD.

OF the value of the Scotch Marigold, *Calendula officinalis*, as a bedding annual I have been long aware, but not until the middle of last month did I discover its worth as a flower for lasting well when cut for vase work, the flowers keeping fresh for nine days to a fortnight, according to their stage of development when put in the vase. I ascribe my belated discovery to the fact of there being so many choicer plants from which to gather during the earlier part of the year that the Marigold, like many another plant, gets passed by when one is looking for something fragrant or more attractive for the special table or desk. The gathering of the flower under notice was made from a large bed of *Calendulas* (among which had been interspersed *Eschscholtzia californica*) and which formed part of an arrangement of beds containing brown and gold flowers. In the cut state they associate well with bronze and terra-cotta single *Chrysanthemums*. The colour of this Marigold always seems richer or deeper in tone in autumn than it does in summer, but I suspect such a notion is an illusion, the reason being that the flowers look brighter on account of the greater greyness of sky at this season and the much diminished strength of light.—C. T.

GARDENING OF THE WEEK

GREENHOUSE AND CONSERVATORY.

Epiphyllums are generally regarded as requiring more heat than the average greenhouse affords. It is true that they enjoy a higher temperature while growing, but when in flower they, like many other plants that enjoy similar conditions during their growing season, stand quite well in an ordinary heated greenhouse. These plants are valuable as they usually flower during the winter months. They were at one time much more commonly cultivated than they are at present, being in fact, grown in considerable quantities for the London market; then there were quite a number of varieties which, at the present day, seem to have disappeared from cultivation. The two species, *E. truncatum* and *E. Russellianum*, and *E. Gaertneri*, which is supposed to be hybrid, are still frequently met with, and large specimens are not uncommon in out of the way gardens. Their drooping habit renders them specially suitable for baskets or for growing as small standards. They root quite readily from cuttings, but are usually grafted on stocks of *Pereskia aculeata*, especially when standards are required. The operation of grafting is quite easy: the stock should be cut over at the required height and a slit made on the top, into this insert a piece of *Epiphyllum*, the bottom part of which is cut to a wedge-shape, bind with raffia or soft cotton, or simply run a spine or two of the *Pereskia* through the stock and scion and the operation is complete. Being rather spare rooting plants, ample drainage must be given, and the compost, which should consist of good medium loam, should have a quantity of broken bricks or old mortar rubble added to it. Beyond careful watering at all times, their cultivation is not at all difficult.

Succulent Plants.—In its widest sense the term "Succulent" includes a very wide range of plants, varying from giant *Euphorbias* to tiny *Mesembryanthemums* and *Sedums*. At one time these plants were very popular, and there were many good collections in gardens up and down the country. They have always been favourites with amateurs; this due, no doubt, to the fact that a small greenhouse will house quite a large collection

of the smaller and choicer species. They also require very little attention in the way of watering, even during the summer there is little chance of their suffering if they are not watered every day. One must not infer from this that they should be neglected in this respect. During the winter months they require very little water, and in a cool greenhouse many of them will stand for several weeks without it. Care should, of course, be taken that the plants do not shrivel. As damp is their chief enemy during winter a buoyant atmosphere should be maintained. If any re-potting is required it should be done early in the New Year. The plants then have a good chance to get well established during the summer; on the other hand, if plants are in bad condition at the root they may be safely repotted at any time. After re-potting very little water should be given until they have made fresh roots. Quite a number of sorts are excellent for growing in a sunny window and two at least, viz., *Aloe variegata* and *Cereus flagelliformis* (the Rat's-tail Cactus), are usually seen in better condition in cottage windows than in greenhouses. *Cereus grandiflorus* and *C. nycitcalus* are both night-flowering and are well suited for training on the wall or under the roof glass of a warm greenhouse. Among *Cotyledons*, *Sempervivums*, *Crassulas*, *Mesembryanthemums*, *Aloes*, *Agaves*, *Mammillarias*, *Phyllocacti*, *Gasterias* and *Haworthias*, there is ample choice for anyone who is interested in this class of plants.

Clematis indivisa lobata.—This beautiful climber is a native of New Zealand and in Cornwall is hardy on warm walls, but generally it requires the shelter of a cool house and in my experience it always does best in a house from which frost is just excluded. If the house is too warm this plant is generally attacked by mildew. When doing well it produces its starry white flowers in wonderful profusion. As the flowers have long stalks they are very useful for cutting. The plant can easily be increased by layers or by means of internodal cuttings, which should be inserted in pots of sandy soil and stood under a bell glass in a cool house.

Royal Botanic Gardens, Kew.

J. COULTS.

